

# THE AUTOMOBILE



## Through the Picturesque Country of the Four By A. G. Batchelder

WE covered the strikingly scenic sections of the big A. A. A. tour under the most unfavorable conditions that could exist. In July the mountain roads will have improved to a marked degree. Rain had preceded our coming and the heavens still had some left. Chains were a requisite and the low-hung top shut out miles of picturesque country.

But the quintette in the Pierce "Pathfinder" thoroughly enjoyed the journey over the rugged mountains of Pennsylvania and keenly admired the less strenuous climbs of the green hills of Maryland. Despite the cussed waterbars that punctuate the way, and the wet that added a source of unnecessary discomfort, we five unanimously voted that the Pittsburg-Bedford and Bedford-Baltimore runs will prove to be the best remembered and appreciated sections of the event for the Glidden and Hower trophies.

Naming the occupants of the sturdy car that carried us so resolutely and uncomplainingly, I am inclined to place the pilot first in the list, for if "Teddy" Dey had not handled that "Big Six" with such consummate and untiring skill there would have been no opportunity for Touring Board Committeeman "Phil" Flinn to assist Secretary Dai H. Lewis in preparing the details of the route, nor would Spooner have had the chance of photographing incessantly from dawn until dusk. It's a job to sit at the wheel of that road locomotive during the sunlight hours of a day, especially when the way winds up to the clouds and down again, abruptly swings around unexpected turns, includes slimy, treacherous surfaces, and now and then demands consideration quickly for other users of the highway.

There'll be some tired drivers at the conclusion of that 100-mile trip from the dirty, soot-laden haze of Pittsburg to the emerald-carpeted and shady dell at Bedford. But the task will bring a scenic recompense of surpassing beauty, sublime and inspiring, and none will regret that climb of the Alleghenies, though sweet and well-earned will be the rest over Sunday at inviting Bedford, a resort with a history that traces back fifty years.

Because the "Pathfinder" had found roads in Ohio that did not deserve even the slightest designation as such—and Committeeman Flinn will have to try again for an itinerary between Canton and Pittsburg—the big car did not report at the Hotel Schenley on Tuesday night. I was one of Arthur Banker's party that started out Wednesday morning to meet and escort the delinquent into the city. Just before we reached the Ohio line we learned, much to our chagrin, that the sought-for had eluded us by taking an unexpected route into town. Next day the energetic Banker, in company with Paul C. Wolff, secretary of the Pennsylvania Motor Federation; S. C. Garver, and "Tom" Dunn and "Bob" McCurdy, two of the Banker star demonstrators, guided us out of the smoky atmosphere to the city's limits, through Wilkinsburg, then down the serpentine hill into Turtle Creek, home of Westinghouse, and bade us godspeed at East McKeesport.

Rain was now falling, but chains had been put on and the top raised, and, hopefully, we started for the mountains and beyond. Stewartsville, Circlesville and various other villes fell to the rear, one after another, as the mechanical brute ploughed its way over and through the mushy roads. A mile of brick pavement in Irwin seemed a treat, and again in Greensburg we had a similar delight. Beyond Youngstown we struck the Loyalhanna creek



JUST BEFORE THE ESCORT LEFT US AT McKEESPORT.

and followed its banks and the Chestnut Ridge for several miles. Beyond Ligonier we began the climb of the Laurel Ridge, rocky and likely to give the passengers of a tonneau some exercise. On the summit the going was better and in the descent the road improved considerably.

At Stoyestown Station we were at the west foot of the Allegheny mountains, and there started a ten-mile dig to the summit. At the base the trees were rich with foliage, but as we progressed skyward the green took on a lighter shade, and, intermingled with the lasting evergreens, it gradually presented a more delicate appearance until by the time the summit was reached it had disappeared entirely and the trees stood out gaunt and unadorned. Even the early dogwood had succumbed to the tardiness of Spring. A dense fog had settled down upon the mountain tops and we poked along slowly and cautiously, not knowing at what moment something might emerge from the pall that shut out the grand view that will be visible in July. Of course, the waterbars were in evidence—repeatedly crossing the road and repeatedly making one cuss the man who was responsible for their placing. Occasionally we caught glimpses of old stone and log houses, most of them uninhabited and more or less in ruins. Frequently we met lumber wagons, usually drawn by three teams of horses, and occasionally attached to traction engines.

Whenever the horses betrayed trepidation at the appearance of the unusual occupant of the road, "Phil," the horse tamer, tackled the task of subduing the fractious equines. His sonorous voice was as efficacious as Mrs. Winslow's soothing syrup is supposed to be for youngsters. Only once was the kindly aid of Mr. Flinn unrewarded, and that happened the next day and it carries a story with it, one that even now exasperates us.

From the summit to Shellsburg it was a nine-mile slide down the mountainside, with a series of ridges interrupting. First came Wolfsburg, and a couple of miles farther on was Bedford,



THEN WE PLUNGED TOWARD THE ALLEGHENIES, DESPITE RAIN.

where we put up at the Grand Central for the night. The Bedford Springs Hotel, two miles out of the city, had not been opened for the season, much to our subsequent regret.

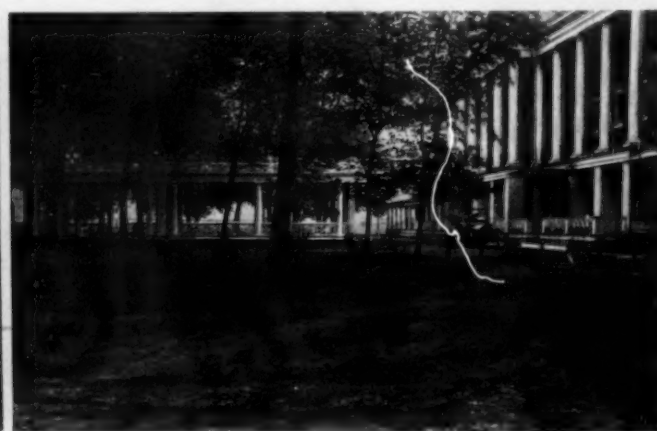
Early the following morning we were again ready for the fray, though the overcast sky with its heavy rain clouds was not conducive to exuberant spirits. An inspection was made of the Springs hotel, its manager interviewed, and the place was O.K.'d as being a satisfactory stop for over Sunday.

On our way, we were soon in the valley of the Raystown branch of the Juniata, which with the sun lending its light and warmth will present as pretty a panorama of scenery as one could ask for. Fifteen miles had been traveled before we started the climb up Ray's Hill, which was much easier than the ascent and descent of Sideling Hill. Next came a ridge without a name, and then we negotiated Scrub Ridge, and three miles from its base ran into McConnellsburg. Soon after leaving McConnellsburg came a four-mile effort to the summit of Tuscarora Mountain. It was a road that alternated between bad and good, but possessed of those instruments of automobile torture known as waterbars. Still it seemed much easier in descending the three and a half miles, and gradually the pike improved in quality, and life was once more worth living, despite the beginning of the toll-gates, as we sped onward through Mercersburg, Greencastle and across the State line into Maryland, and were soon in bustling Hagerstown. Here we ran across Harold L. Pope, seated at the wheel of a Pope-Tribune, who was leaving in the evening for his new post at Toledo.

A Crawford demonstrator gladly guided us out of town. At Boonsboro, near which the battle of Antietam was fought, we started the crossing of the Blue Ridge. Less trying than the Alleghenies, the ridge supplied view after view of scenic beauty and possessed a roadbed superior to what had been traveled over in Pennsylvania. At Boliver we found ourselves on the other side



BESIDE THE RAYSTOWN BRANCH OF THE JUNIATA RIVER.



BEDFORD SPRINGS WILL SUPPLY A GOOD RESTING PLACE.



ON THE SUMMIT OF THE ALLEGHENIES, WE FOUND THE TREES STILL GAUNT AND BARE.

of the ridge, but we were still considerably above sea level, and from Braddock Heights, five miles before reaching Frederick, a sight of four States was possible. The "clustered spires of Frederick" were visible, and even the mountains of Virginia were to be seen far in the distance.

It was not far from Frederick that "Phil, the Horse Tamer," met with his single reverse in the way of appreciated courtesy. Noting the apprehension of a single rig that was approaching, "Engineer Teddy" hushed the noise of the big car and allowed it to coast down hill silently. The "Horse Tamer," who had sprinted ahead, took the bridle of the excited horse and led him past the car, despite the ungenerous comments of its owner. It is true that we exchanged compliments of a somewhat emphatic sort, and the parting shout of the stranger had something to say about "'tendin' to our case." As we drew into Frederick and stopped in front of the City Hotel, seeking information as to a gasoline replenishing place, a deputy sheriff and then the sheriff himself interviewed us in regard to the incident some eight miles back on the road. At first there seemed to be an inclination to cause us to await the coming of the horseman who had in mind the swearing out of a warrant for our arrest on the ground that we had caused some fancied damage to his rig. A plain statement of the case as it actually existed, a telephone conversation between the sheriff and the alleged plaintiff, and we were released from the alleged custody which was supposed to exist but which we declined to recognize except as a matter of courtesy. As a clincher, Spooner had taken a photograph as the horse was being led by in charge of our "Tamer." It was the single incident of unfriendliness that had been encountered on the way from Pittsburg.

For those who may have in mind the seeking of the house from the attic window of which Barbara Frietchie waved her country's flag, it should be here stated that the domicile is no longer in existence, though Dame Barbara's grave can be found in the cemetery, wherein Francis Barton Key, composer of the "Star-Spangled Banner," was also laid to rest. Frederick also gains celebrity through

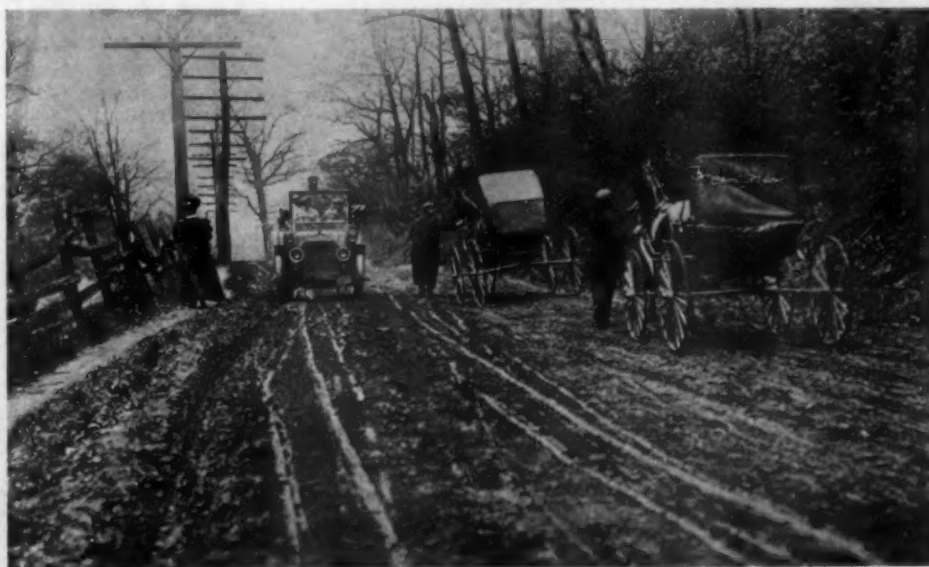
being the birthplace of Admiral W. S. Schley.

The Frederick-Baltimore Pike is a pretty fair sort of road, and while one continues to cuss the waterbars, they are less troublesome than in Pennsylvania. A few miles from Frederick you cross the Monocacy river by the Old Jug bridge, built in 1808. Though we could have made Baltimore, we stopped for the night at Ridgeville and found good country accommodation at the Eagle Hotel. Our reason for lingering 31 miles from Baltimore was for the purpose of entering that city by daylight and being sure of the best route. Mr. Clark met us at Ellicott City, which is picturesquely located on the Patapsco river, and we were soon in front of the new Belvidere Hotel, where the tourists will stop on the night of July 22.

From Pittsburg to Baltimore exists the real picturesque and scenic part of the coming A. A. A. tour, and while the route is far from easy sledding, and will try the reliability of cars and the skill of drivers, there will be a welcome relief from the level roads of Ohio, Indiana and Illinois, a change from the monotonous succession of busy cities and sleepy villages—in fact, it will take one close to Nature, who exhibits her moods in variable forms in the miles that intervene between grimy Pittsburg and cleancut Baltimore. There is little in this world worth having unless it is fought for, and it must be admitted that there will be work for cars and drivers, but work that is within the capacity of both and well worth the scenic rewards that will be forthcoming. Springs and brakes and tires will be severely tried, and before leaving Pittsburg the wise participant will have reckoned with these items and be prepared for what will follow.

#### PIERCE PATHFINDER'S WORK IS DONE.

The Pierce "Pathfinder" reached New York City, Monday night, shortly after 6 o'clock, and Secretary D. H. Lewis had completed the mapping of the 1,500-mile tour, with the exception of a stretch between Canton and Pittsburg. The route covered between these two cities was found impossible for recommenda-



MANY TIMES PATHFINDER STOPPED TO HAVE HORSES LED PAST ITS SILENT CYLINDERS.



FREQUENTLY WE FOUND ROAD REPAIRERS AT SPRING WORK

tion, and Philip S. Flinn, the Pittsburg member of the Touring Board, will prepare another itinerary.

The tour will start from Cleveland, July 11, the first day's run being to Toledo, 121 miles; second day, Toledo to South Bend, 166 miles; third day, South Bend to Chicago, 101 miles. The tourists will rest in Chicago from Saturday night to Tuesday morning. South Bend will be reached on Tuesday night; Wednesday will be a run of 148 miles to Indianapolis; Thursday the route calls for 174 miles to Columbus; Friday will be occupied in reaching Pittsburg, and the following night the tourists will stop at Bedford Springs for over Sunday. Monday, July 22, will come the long run of 140 miles to Baltimore; from this city to Philadelphia, the century of Tuesday, will not be very difficult, and the final day's run from Philadelphia to New York should not be particularly trying for the survivors.

Chairman F. B. Hower, who met the party of "Pathfinders," expresses himself as confident of the great success of the tour, for which he anticipates an entry list of a hundred or more for the two trophies.

#### N. J. COMMISSIONER TO INVESTIGATE RUN.

TRENTON, N. J., May 27.—J. B. R. Smith, Commissioner of Motor Vehicles of New Jersey, has taken prompt action in the case of the automobile smash-up which occurred near this city last Saturday night, when four men were seriously hurt as a result of speeding their car on an alleged record run from New York to Philadelphia. The Commissioner says that if he finds it to be correct that the men were employed by the New York branch of the Packard company to race the car through New Jersey, he will proceed against the company for violation of a State law, expecting at least to revoke its license in this State.

#### MEETING OF A. A. A. EXECUTIVE COMMITTEE.

The monthly meeting of the A. A. A. Executive Committee was held Tuesday afternoon at the Association offices, 437 Fifth avenue, New York City. President William H. Hotchkiss



PICTURESQUE SPOTS EXIST ALONG BALTIMORE-FREDERICK PIKE.

presided, others present being First Vice-President L. R. Speare, William K. Vanderbilt, Jr., George E. Farrington, Jefferson DeMont Thompson, A. G. Batchelder and Secretary F. H. Elliott. Chairmen Charles Thaddeus Terry of the Legislative Board, Frank B. Hower of the Touring Board, Robert P. Hooper of the Good Roads Board, and Mr. Thompson of the Racing Board all presented reports indicating the present substantial activities of the national organization. The Automobile Club of Washington was admitted to membership as a State association, its territory to include the District of Columbia.

#### C. R. MABLEY TO MANAGE IMPORTERS' SHOW.

Carlton R. Mabley has been selected as general manager of the Importers' Automobile Salon, and will take charge of the show of foreign machines in Madison Square Garden at the end of the year. The announcement was made at a dinner given to Mr. Mabley at the Café Martin by members of the New York Automobile Trade Association.

Among those present were: Paul Lacroix (Renault), Carl Page (White), Frank Eveland (Stevens-Duryea), E. R. Hollander (Fiat), E. S. Partridge (C. G. V.), A. J. Pickard (Stearns), Alfred Reeves (A. M. C. M. A.), J. S. Josephs (Rochet-Schneider), John F. Plummer (Locomobile), S. B. Bowman (Clément-Bayard), W. M. Harradon, Peter Fogarty, W. P. Kennedy, A. G. Hamilton, A. F. Camacho, L. P. McNamara, J. A. Coch, G. A. Hewitt, and C. Andrade.

In the course of the evening it was stated that the firm of Smith & Mabley would be discontinued.

#### A. L. A. M. INSTITUTES MORE NEW ACTIONS.

Following up the policy of beginning actions against independent makers and dealers recently inaugurated, the Association of Licensed Automobile Manufacturers has just filed four additional suits against the Mors Motor Car Company, the Daimler Manufacturing Company, Oscar Lear Automobile Company and the York Motor Car Company.

#### ENTRIES TO DATE 1907 A. A. A. TOUR.

Car No.	Entrant.	Club.	Car.	H. P.	Glidden.
1	N. H. Van Sledren.....	Chicago Automobile Club	Apperson	40-45	Yes
2	K. R. Otis.....	Cleveland Automobile Club	Pierce Great Arrow	60-65	Yes
3	R. D. Garden.....	New York Motor Club	Pierce Great Arrow	40-45	Yes
4	Maxwell-Briscoe Motor Co.....	Westchester Motor Club	Maxwell	36-40	
5	A. L. Kull.....	New York Motor Club	Dragon	24	Yes
6	T. J. Clark.....	Chicago Automobile Club	Packard	36	Yes
7	C. A. Coey.....	Chicago Automobile Club	Thomas "Flyer"	60	Yes
8	Charles E. Finlay.....	Associated Automobile Clubs of N. J.	Pierce Great Arrow	60-65	Yes
9	George S. Salzman.....	Automobile Club of Buffalo	Thomas "Flyer"	60	Yes
10	The Dragon Automobile Co.....	Philadelphia, Pa.	Dragon	24	Yes
11	Montgomery Hallowell.....	Automobile Club of Buffalo	Thomas "Flyer"	60	Yes
12	R. D. Chapin.....	Automobile Club of Detroit	Thomas "Forty"	40	Yes
13	George M. Davis.....	Automobile Club of Buffalo	Thomas "Flyer"	60	
14	Philip S. Flinn.....	Pittsburgh Automobile Club	Pierce Great Arrow	40-45	Yes
15	H. P. Branstetter.....	Chicago, Ill.	Dragon	24	Yes
16	Orrel A. Parker.....	Automobile Club of America	Royal Tourist	45	Yes
17	H. E. Coffin.....	Automobile Club of Detroit	Thomas "Forty"	40	Yes
20	John Kane Mills.....	Chicago Motor Club	Pierce Great Arrow	40-45	Yes
18	H. Paulman.....	Quaker City Motor Club	Dragon	24	Yes

## HOW THE AUTOCAR WON THE 24-HOUR RACE

PHILADELPHIA, May 25.—Autocar, first; Frayer-Miller, second; Dragons, third and fourth; Mitchell, fifth. That was the order of finish as announced by the officials in the big 24-hour Endurance Derby, which was concluded at 4:13 P.M. This order may be changed somewhat, as the Frayer-Miller, which, secure in its position from a mileage standpoint, had been withdrawn in the last hour, when its ignition apparatus had gone wrong, was pushed under the wire at the finish by control attendants. Quick to seize the opportunity, the Dragon people filed a temporary protest with Referee Overpeck on the ground that the contest, being one of endurance and not of mileage, the Frayer-Miller should be disqualified for not having been on the track for the full twenty-four hours. The impression prevails, however, that the ruling may be based on mileage, and that the air-cooled car will retain second place.

The mileage of the five cars which finished is: Autocar, 791; Frayer-Miller, 736; Dragon, 733; Dragon, 686; Mitchell.

Another incident of the finish which might have resulted awkwardly for the winner but for the thoughtfulness of a local newspaper man, was the withdrawal of the Autocar from the track when its lead was such that in the limited time remaining it became apparent that it could not be headed. Six minutes before the time limit set for the conclusion of the race a courier from the press stand dashed into the Autocar control and warned them to get the car on the track. The result resembled an alarm at a fire station. Resting drivers jumped into their coats; attendants took a hurried look over the car, "threw 'er over," and in two minutes the Autocar was chug-chugging around the track to the plaudits of 3,500 spectators.

Ten cars lined up to take the word from Referee Overpeck. They were:

C. A. Schroeder's 40 to 60-h.p. Darracq, driven by Wm. Wallace, Jr.

W. M. Cram's 35-h.p. Mitchell, driven by H. F. Greenwalt and Edwin Yost.

H. B. Stillman's 18-h.p. Mercedes, driven by himself.

Dragon Automobile Co.'s 24-h.p. Dragon, driven by George McKay and T. F. Randolph.

The same company's 24-h.p. Dragon, driven by Edward O'Donnell and John Haynes.

The Autocar Company's 30-h.p. Autocar, driven by Joseph L. Brown and Robert Maynes.

T. M. Twining's 40-h.p. Crawford, driven by himself and R. S. Crawford.

Philadelphia Motor Car Co.'s 50-h.p. Frayer-Miller, driven by Daniel Webster and W. H. Knepper.

Ralph Mongini's 60-h.p. Matheson, driven by himself.

Girard Motor Car Co.'s 30 to 35-h.p. Cleveland, driven by George Ruhland and M. La Roche.

Starter "Joe" Keir fired his pistol at exactly 4:13 o'clock, and then started a fight for the lead between Mongini and Crawford, which put their cars several miles ahead of the others at the end of the first hour, and which saw the old automobile manufacturer gain more than a mile on his big Italian adversary, incidentally raising the hour figures for a similar event from 41 to 44 miles. Comparison is made with the figures made by the Soules' brothers at Columbus, O., July 4, 1905.

The end of the second hour saw the Frayer-Miller in the lead with 84 miles, one better than the Soules record. There was nothing more doing with the records until the completion of the fifth hour, when "Dan" Webster and the Frayer-Miller, still in the lead, added a mile to Soules' 108. Again at the seventh hour the Frayer was a mile better than the Soules record of 275, and from then on to the sixteenth hour—when the leader had covered 560 miles, seven better than the record (changing the card for all the intermediate hours also), and when Webster had a 20-mile lead on the nearest car—things had a decided Frayer-Millerish aspect.

Just here, however, a dump into the backstretch ditch and resulting magneto trouble lost the Frayer nearly all its lead, and early in the eighteenth hour it was passed by the Autocar, which secured a lead of over 30 miles before the Frayer got going once more. This lead was too much to overcome, and the Autocar crew, "playing 'em safe," took no chances, although a continuance of the Frayer's misfortunes rendered such caution unnecessary and widened the margin between the cars to 55 miles at the finish.

The ditching of cars, especially on the backstretch, was quite frequent during the race, fully half a dozen spills of this character causing cars not only to lose much valuable time, but in several instances put them out of the race. The Mitchell was the first to buck the rail, just about dawn on Saturday. Then came the Frayer's mishap. The Cleveland lost second position when, shortly before midday, it carried away six sections of the backstretch rail and plumped into the ooze, later withdrawing with 544 miles to its credit. A few minutes later one of the Dragons—No. 5—burst a tire and turned a complete somersault as it penetrated the fence at the first turn beyond the grandstand.

Strange to say, none of these spills produced a serious injury. Scratches and bumps are plentiful, but the Methodist Hospital ambulance, which remained on the ground during the race, had its trouble for nothing.

The Dragon mix-up gave the public an opportunity to admire the perfect arrangements made to cope with just such accidents. The car was towed back to the Dragon quarters in a most dilapidated condition. Thirty men set to work on it at once, and in

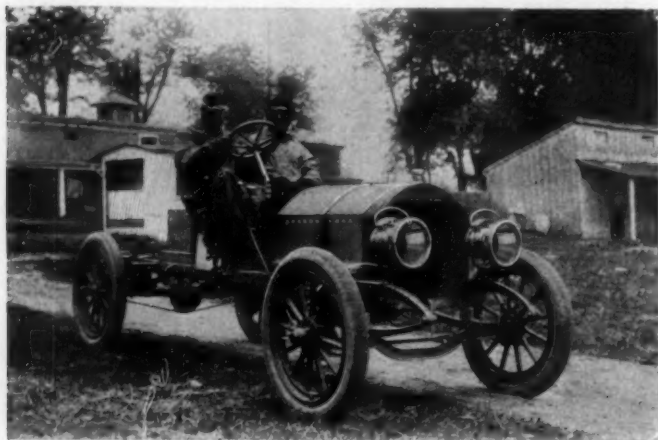


LINE-UP OF THE TEN CARS THAT STARTED IN THE 24-HOUR RACE AT POINT BREEZE TRACK, PHILADELPHIA.

an hour and fifty minutes No. 5 was back on the job—in time to prevent the Mitchell from pre-empting fourth place.

Mongini's car, a hopeless victim of ignition troubles, was taken from the track after covering 130 miles, much to the grief of its driver, who had prepared to run the car alone through the entire race, not caring to divide the honors he was sure would be his. The Crawford suffered from the same ailment, but hung on till after daylight, having 389 miles to its credit when finally withdrawn. The smashing of a clutch roller put Stillman's five-year-old underpowered Darracq to the bad, but when it was retired it had covered 485 miles and was in fourth position.

A surprising feature of the contest was the large crowd of spectators who found time to stay all night to witness the novel scenes in the various camps and on the track.



THE 30-H.P. AUTOCAR WHICH WON THE 24-HOUR.

The following table shows the leading car at the end of each hour, with the number of miles to its credit:

Hour	Leader	Miles	Hour	Leader	Miles
1	Crawford	44	13	Frayer-Miller	469
2	Frayer-Miller	84	14	"	498
3	"	123	15	"	529
4	"	155	16	"	560
5	"	199	17	"	579
6	"	231	18	Autocar	609
7	"	276	19	"	641
8	"	307	20	"	668
9	"	349	21	"	708
10	"	378	22	"	738
11	"	409	23	"	769
12	"	440	24	"	791

The fillers-in proved to be a farce. The curtain-raiser, a three-mile event for cars costing \$1,500 or less, brought two Model C Jacksons to the tape. The time trials for the track record were abandoned, the only possible entrants being too busily engaged tuning up for the big event to bother about them. The condition of the track after the conclusion of the twenty-four-hour race was such that the officials warned all starters that to attempt fast time on it would be a very risky undertaking. As a result, but one event was started, and in that but two cars—a Pope-Hartford and an Oldsmobile. The former won in slow time, the latter suffering a puncture.

### YALE STUDENTS HOLD RACE MEETING.

NEW HAVEN, CONN., May 27.—Six events were contested at the Yale Automobile Club's second meet at Bradford Driving Park, summaries of which are as follows:

Three-mile Open, Autos.—A. Folberth (Oldsmobile), 4:26 3-5; L. C. Phipps (Stoddard-Dayton), 4:29; Walter Allen (Dietrich), 4:35.

Three-mile University, Autos.—L. C. Phipps (Stoddard-Dayton), 4:32; W. J. Morden (Berliet), 4:33 4-5; G. H. Townsend, 4:47 3-5.

Three-mile Small Car Open.—Charles S. Lee (Franklin), 4:41 4-5; R. G. Bigelow (Locomotive), 4:42 1-5; C. Bethier (Franklin), 4:43 4-5.

Three-mile motorcycle races were decided as follows: Two-cylinders, E. L. Johnson, 5:13 3-5; single-cylinders, P. Cox, 4:52 3-5; university race, E. Coe, 5:23 4-5.

### ENTRIES FOR 200-MILE ENDURANCE RUN.

Preparations are well advanced for the New York Motor Club 200-mile endurance run on June 6. Carl Page has consented to act as pilot and will distribute the confetti from his White steamer. Patrol service will be done by a Berliet machine supplied by the American Locomotive Company, and by William B. Hurlburt's Packard. F. J. Wagner is to act as starter, and Oliver A. Quayle, president of the New York State Association of the A. A. A., will check the cars in at Albany. Secretary Hakes, of the New York State Association, will be the Chatham checker. Others to act in this capacity are Chas. Dieges, of the Timers' Club of New York, M. C. Reeves, E. L. Ferguson, C. A. Woolson and Louis R. Smith. The interests of the tour will be looked after in Philadelphia by E. C. Johnson, of the Quaker City Motor Club; similar service will be rendered in Harrisburg by W. R. Douglass.

Among present entries for the tour are a 40-horsepower Berliet engaged by James Joyce, of the American Locomotive Company, two Dragons engaged by A. L. Kull and John Haines, a 40-horsepower Lozier by H. A. Lozier, and a 30-horsepower Franklin entered by Wyckoff, Church & Partridge. It is hoped that entries will be made as early as possible to facilitate preparations.

### FURTHER ACTION ON THE PIER QUESTION.

Following out the systematic move undertaken by the American Motor Car Manufacturers' Association, through its general manager, Alfred Reeves, to overcome the opposition of certain steamship lines to the gasoline commercial vehicle, there was a meeting last week with the Local Freight Agents' Association of New York City, the New York Automobile Trade Association delegating its secretary, E. V. Stratton, to co-operate. L. B. Sanders, in charge of the new motor car department of the Fiss, Doerr & Carroll Company, also attended. The freight agents are entirely in accord with the trade associations on this point, even having gone to the extent recently of passing a resolution favoring the admission of gasoline trucks to the docks. The next step will be to bring the matter before the Trunk Line Association, and through the latter to the fire underwriters.

### TRADE ASSOCIATION INCORPORATES.

At a meeting of the board of directors of the New York Automobile Trade Association in the latter's new quarters in the Motor Mart at 1931 Broadway, last week, the matter of organizing the association as a corporation under the laws of this State was taken up and completed. The Haynes Automobile Company, A. G. Southworth Company, D. P. Nichols & Co., and C. B. Rice, who handles the Baker electric in this territory, were admitted as members. Matters of interest to the trade, such as the question of holding an automobile sale week, and the refusal of some of the steamship companies to allow gasoline trucks to run on their piers, were taken up and discussed. A proposal to establish a collection department for the benefit of the members of the association was also considered.

### STEARNS TO BRING OUT A SIX-CYLINDER.

For the season of 1908 the ranks of the six-cylinder advocates are to have a new entrant in the shape of the F. B. Stearns Company, of Cleveland, O., who have decided to place a high-powered model of this type on the market for next year. No details as to its chief features are as yet forthcoming, though it is stated that a number of new ideas will be incorporated, as well as the fact that they are such as to make the six-cylinder car more popular. Owing to the press of other work at the factory the new car is not expected to be seen much before December next. The first order for a six-cylinder Stearns has already been placed, however, and calls for delivery January 1, 1908.

## FEATURES OF RENAULT AND PANHARD RACERS

THE three Renault machines which will endeavor to again capture the Grand Prix of the Automobile Club of France are in all essential features similar to those of last year, the only changes being in minor details. They are, in fact, an enlargement of the 1907 models of Renault touring machines.



NEW RENAULT RACER HAS VERY FAMILIAR APPEARANCE.

Distinctive features of the racer are radiator behind the motor, tread exceptionally narrow, and absence of a differential. As to the mechanism of the racer there is nothing of an extraordinary nature or that could in any sense be considered as freakish. The placing of the radiator in the rear has numerous advantages; the motor is more accessible, the machine gains in elegance, and there is a diminution of the weight on the front axle, as the result of which there is better adherence of the driving wheels and more efficient utilization of the driving power. The relieving of the front axle gives excellent results on sharp turns. It is only with the radiator in the rear of the motor that thermo-siphon water circulation can be satisfactorily adopted. The abolition of the pump cannot be regarded otherwise than as a progress, for it simplifies the mechanism. It is interesting to note that last year's Grand Prix racers showed no signs of overheating under thermo-siphon circulation. The Renaults of the Auvergne circuit and the 1905 Vanderbilt, which were equipped with a pump, overheated enormously. The radiator, as is well-known, consists of a number of vertical tubes of small diameter with space between them for the passage of air. First adopted on the Paris-Berlin voitures, the system has now been developed to a perfect condition.

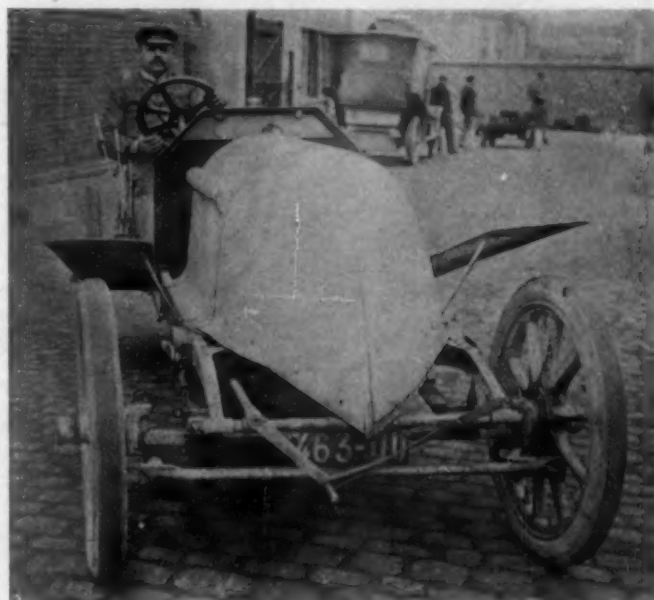
Four cylinders cast in pairs, bore 6.4 inches and stroke 5.9 inches, are announced as developing 100-horsepower; in reality the effective power is considerably in excess of this. Valve mechanism is as on the touring machines, a single camshaft operating valves all on one side. Although the Grand Prix is run with a limited allowance of fuel, the standard carbureter, with the improvements embodied in the 1907 touring machine, is employed. Ignition is by high-tension Simms-Bosch magneto with Renault mica spark plugs.

An inverted cone clutch is used on the three racing machines. The female member is cut in several places, forming a number of blades turned inwards, providing progressive friction on the male cone. Three speeds and reverse are obtained by sliding-

gear transmission, with direct drive on the high gear. The designers of the machine declare that the abolition of the differential is justified by the speed at which the car is intended to travel. At high speeds the wheels of a racing car frequently leave the ground. With a differential, when one wheel has left the road the other loses its propulsive action; thus for racing purposes the rear axle without differential is more efficient than one fitted with this organ.

Neither oil nor gasoline are under pressure on the racers. Renault liquid shock absorbers are employed, and it is very probable that Michelin dismountable rims will be used.

It is difficult to recognize the familiar Panhard in the three powerful racers produced from the Paris pioneer factory, for competition over the Dieppe circuit. Instead of a honeycomb radiator across the fore end of the chassis, this organ is now to the rear of the engine, about midway on the length of the frame. It is the position inaugurated by Renault, followed by Bayard-Clément on their cab chassis, and now taken up by Panhard. The four separate steel cylinders with copper jackets are 7.2 inches bore by 6.6 inches stroke, the largest displacement of any European machine in the race. Cylinder heads and valve pockets are of cast iron. Valves are on opposite sides, with integral cams. Ignition is by high-tension Eiseman oscillating magneto mounted in front of the engine on the forward cross member, and gear-driven off the camshaft. Spark plugs are on the sides, immediately over the inlet valves. Water circulation is assured by a centrifugal pump, the honeycomb radiator being of the type generally employed on Panhard machines. Owing to its new position a square opening has to be cut through it to allow of the passage of the steering column. A Krebs carbureter, with perpendicular currents and hydraulic regulator is employed, and is located on the right-hand side of the engine. All four exhausts are united in a common manifold, opening to the air



PANHARD MACHINE WITH MANY NEW FEATURES.

from a longitudinal pipe under the frame. Transmission and final drive show fewer changes; a Hele-Shaw multiple disk clutch as formerly; four speeds forward with reverse by separate lever, and cardan shaft to rear live axle. Krebs shock absorbers are used on all the racers; R. B. F. ball bearings are employed throughout in the transmission, and Michelin tires and dismountable rims have been adopted.

## NEW YORK STATE "BLUE BOOK" ISSUE.

This week the Class Journal Company, publishers of *THE AUTOMOBILE*, issue the second volume of the 1907 series of the "Official Automobile A. A. A. Blue Book." This volume, which is No. 1 of the series, deals primarily with New York City and State, with a Canadian section, also with extensive routes into the Middle West. It is a book of 637 pages, illustrated with a large number of route maps, and in the neighborhood of 140 city and town maps, giving principal entrances and exits.

The accompanying map is a reduced reproduction of the New York State map in the front of the "Blue Book." In addition to New York State, it shows the principal connecting routes into New England, northern New Jersey, and upper Pennsylvania, also the Canadian route from the principal New York State waterway—Niagara Falls—to Hamilton, Toronto, Kingston, Montreal, and Quebec, with additional connections across the St. Lawrence from Thousand Island points and Ogdensburg to the route along the upper shore of Lake Ontario, connecting eastward to Montreal and Quebec, westward to Kingston, Toronto, and Hamilton.

The circles at the location of the most important cities represent centers of sections in the New York State volume listing *outbound* routes. The figures inside the circles represent the pages in the Blue Book where the title page of the different sec-

tions will be found, this map serving as a "graphic index" to the principal contents of the volume. For instance, the circle for Albany, N. Y., contains the figure "181," turning to page 181, the tourist has the table of contents for the Albany section spread out before him. The same applies to all the other sections of the volume including the Canadian centers, Toronto, Montreal and Quebec.

For the first time the "Blue Book" has extended its compilations and map work into the West, the last seventy-five pages dealing with the principal through routes in Ohio, Indiana, and Illinois, with one route from Chicago to Milwaukee, Wis. Of course, the Western routes are fragmentary at this time, but Cleveland, Toledo, Detroit, Jackson, South Bend, Chicago, Milwaukee, Elgin-Aurora (Ill.), Indianapolis, Louisville, Cincinnati, Dayton, Springfield, Columbus, and several other important centers are connected by lines which will enable the tourist to plan his trips in that territory much better than has been possible before. All of these and numerous other cities in the Middle West have been mapped out with the same thoroughness that has characterized the work of the "Blue Book" in the East, and while the map work in the Middle West has only been begun, there are a few general maps that show the "lay of the land."

The New York State and Canadian volume, like the New England volume, sells for \$2.50 postpaid, by the Class Journal Company, Flatiron Building, New York.



MAP REPRODUCED FROM NEW YORK STATE BLUE BOOK, AND SLIGHTLY REDUCED IN SIZE.

## SOME FEATURES OF AUTOMOBILE CONSTRUCTION\*

By THOS. J. PAY, E.E.

THERE is still another grade of chrome nickel steel that is quite serviceable in motor car work for minor parts, an investigation of which exhibited qualities as follows:

## Chrome Nickel Steel—"D."

## CHEMICAL COMPOSITION

Chromium	Nickel	Carbon	Silicon	Sulphur	Phosphorus	Manganese
0.63	2.19	0.39	0.19	0.034	0.021	0.19
to	to	to	to	to	to	to
0.71	2.09	0.36	0.24	0.039	0.026	0.16

## PHYSICAL PROPERTIES—NORMAL

T. S.	E. L.	Ex.-2"	Con.-1"	Structure
110,000	90,000	16	64	Close
to	to	to	to	
100,000	80,000	14	61	

## QUENCHED AND ANNEALED

T. S.	E. L.	Ex.-2"	Con.-1"	Structure
135,000	130,000	12	51	Close
to	to	to	to	
145,000	144,000	10	56	

This product, while in no way equal to specimens "A" or "B," is distinctly superior to the product "C"; at the same time it costs no more than about one-half the price of the product "C."

(a) The price of steel is no sign of quality.

(b) Elastic limit and elongation in conjunction may be considered as a sign of quality if sulphur and phosphorus are low.

(c) A marked difference between tensile strength and elongation point to "doctored" chrome nickel steel.

(d) Good carbon steel at two cents per pound is better than bad chrome nickel steel at 20 cents per pound.

Having taken up the properties of chrome nickel steel, it may be well to say a few words about nickel steel.

Nickel steel, if free from seams and its most likely imperfections, would seem to be superior to carbon steel, provided the carbon to nickel relation is closely held; but every time the speaker has used nickel steel, a large percentage of it showed seams and cracks, and recently the speaker observed the utter failure of this product ere it could be put into the car for which it was intended; in other words, the forgings showed cracks, and on attempting "heat treatment" the cracks developed.

Nickel steel is notoriously hard to make, and while nickel steel holds good properties, it is the speaker's opinion that it is too uncertain to be advantageous for use in cars of pretensions.

Carbon steel, in spite of its well-known characteristics, will stand further investigation. Gears, for illustration, of low carbon steel below 0.10, even with high phosphorus and case-hardened, are far superior to gears of from 0.20 to 0.30 carbon acid open hearth steel, which, when case-hardened, shows a coarse crystalline structure, and the "armor" chips off like porcelain.

It would seem, then, for "cementing" case-hardening, gears must be below 0.15 carbon; that is, below the carbon that would show temper when quenched. If case-hardening is not desired, then carbon steel gears should be comparatively high in carbon, say 0.40 to 0.50 carbon, when the results would be as follows:

## Carbon Steel—"E."

## CHEMICAL COMPOSITION

Carbon	Silicon	Sulphur	Phosphorus	Manganese
0.45	0.20	0.017	0.024	0.40

## PHYSICAL PROPERTIES—NORMAL

T. S.	E. L.	Ex.	Con.	Structure
95,000	41,000	22	44	Silky
to	to	to	to	
90,000	35,000	18	40	

\*Paper read before the Society of Automobile Engineers. Continued from page 854, issue of May 23.

Oil and water-quenched to 850° C. and then annealed to 550° C.

160,000	95,000	12	58	Close
to	to	to	to	
150,000	85,000	9	54	

In this we have a product costing but a small sum in comparison, yet, withal, quite as good or superior to the inferior grades of chrome nickel steel; hence it is really a question as to the advantage of paying a large sum for an inferior product or a small sum for a superior product, merely to change the name.

Of course, superior grades of chrome nickel steel are so far superior as not to be classed in any way with carbon steel, even when the carbon steel is skillfully treated, and the chrome nickel steel is employed in its normal state.

The speaker has for some time held some views about carbon steel that seemed to elude proof, mostly, perhaps, for lack of time to make curves, such as would bring out the true characteristics. It occurred to the speaker that this might be an opportune moment to air some views on this subject, and the chart Fig. 1 was constructed for the purpose. The chart in question shows several things, among which are as follows:

(a) The theoretical tensile strength for the respective carbon values can only be attained in practice, for carbon, ranging between 0.10 and 0.40 per cent., unless by some especial attempt or in isolated instances.

(b) The curve B shows the promised elastic limit of carbon

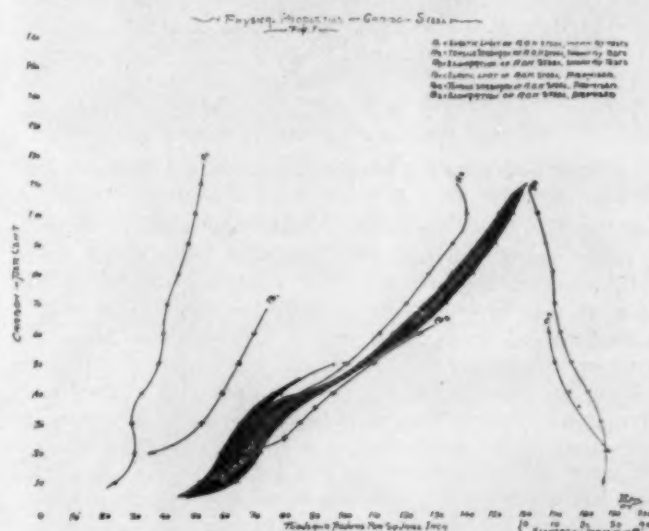


FIG. 1.—Chart illustrating physical properties of carbon steel.

steel,—acid open hearth—which is very much higher than the actual elastic limit, as given in curve A<sub>1</sub> for the carbon values.

(c) The curve B<sub>2</sub> of tensile strength is above the theoretical, whereas the curve A<sub>2</sub> of actual tensile values falls below, for all products above 0.40 per cent. carbon and for mild steel below 0.10 per cent. carbon, while in no case does the actual tensile values even reach the maximum theoretical values.

(d) The curve B<sub>2</sub> shows a lower elongation for the promised steel than that given in the curve A<sub>2</sub> of actual tests, thus showing an actual loss of value on the part of mills in their endeavor to attain a high tensile value and a corresponding elastic limit.

(e) The chart also shows very clearly that acid open hearth steel is superior to basic products, so much superior, in fact, that the minimum expectation with the acid process is the maximum expectation with the basic process.

(f) The curve A<sub>1</sub> shows that the elastic limit of steel, between 0.20 and 0.35 carbon, fails to increase by any well defined pro-

portional value. This is an extremely important matter, because it has been found by oft repeated attempts that gears, for illustration, ranging in carbon between 0.20 and 0.30 per cent., when case-hardened, are very frequently a flat failure,

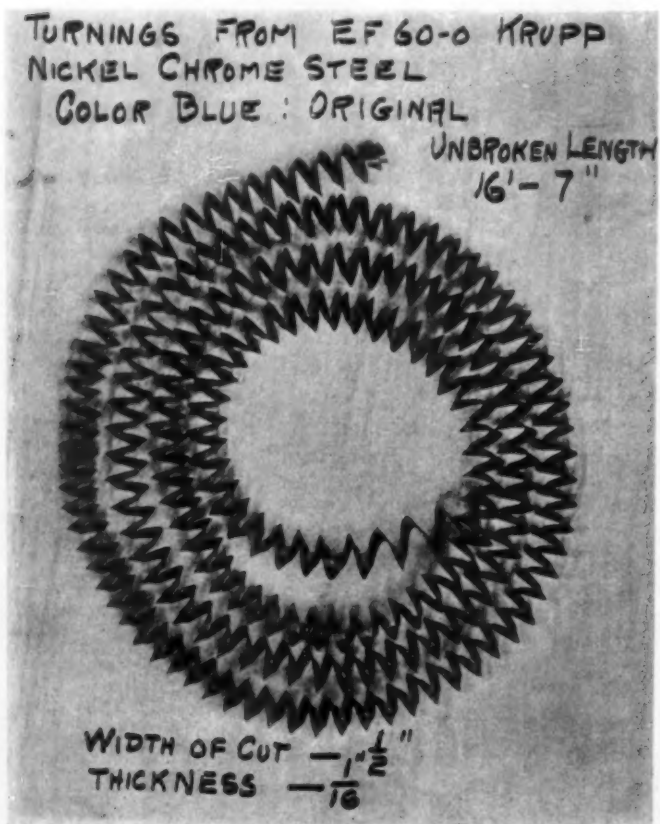


FIG. 1.—Cut from chrome nickel steel taken on 30-inch lathe.

and the only reason for selecting such high carbon is to attain a higher elastic limit than that done to a lower carbon range.

If, however, the gain in elastic limit can not be counted upon, then to risk attaining a crystalline structure is without a good reason, for, as no doubt is well known, steel below 0.20 per cent. carbon may be used without any chance of developing a coarse structure in the bent treatment, referring to good steel, of course. Many failures must be due to the proportioning of parts based on the elastic limit as given in the curve  $B_1$ , whereas the curve  $A_1$  is more nearly the true guide. To cite an example for illustration, it is but necessary to put down the figures, viz.:

0.30 CARBON STEEL

$A_1$  elastic limit, 29,000 lbs. per square inch.

$B_1$  elastic limit, 52,400 lbs. per square inch.

Any engineer who figures on over 50,000 pounds elastic limit, and realizes less than 30,000 pounds, should stay awake o' nights and worry about the feature.

But a few days ago the speaker inspected a very high-priced foreign touring car, in which the carbon shaft "twisted." The conditions may be set down about as follows:

Rating of motor.....	40 horsepower.
Weight of car.....	About 3,600 lbs.
Diameter of shaft.....	1 3/8 inches.
Material of shaft.....	Carbon steel.

It is not the purpose here to "knock," or the question might come up as to why any one should go to Europe to get a car with a 1 3/8-inch carbon steel cardan shaft, to hold down a 40-horsepower motor, or drive a big limousine through a sea of mud.

This was a good case of using carbon steel, exactly the size of a chrome nickel steel cardan shaft in another foreign make

of car, and very likely the designer figured on a much higher elastic limit of the carbon steel than the limits usually realized in practice; but before leaving this phase of the subject, it may be well to say, a design to be copied, must include a copy of the materials as well as duplicating the dimensions,—a Chinese copy—else the process augurs trouble for all concerned.

The question of machining chrome nickel steel is probably of greater interest than any question of details or design of parts that can be exposed at this time, and for brevity the speaker will quote the facts and let reasons stand as self-evident.

In experimenting upon this phase of the motor car question, three sizes of back-geared lathes were used, as follows: 30-inch swing, 20-inch swing, and 16-inch swing. The 30 and 20-inch swing lathes were heavy and rigid and furnished by Isaac Johnson & Son, Jr., of Philadelphia, Pa. Not believing that the smaller lathes were of any real value, they were not actually purchased, but the work was taken out to shops having them.

The relative value of the lathes was found to be as follows:

Thirty-inch lathes rated as 100.

Twenty-inch lathes proved to be 66.

Sixteen-inch lathes proved to be valueless.

The work was all regular automobile product, as crankshafts, connecting rods, and similar parts, of E. F. 60-0 Krupp chrome nickel steel, with a few exceptions, in which Bischoff special auto steel was used. The cuts taken on the 30-inch lathes are shown in Fig. 2 and Fig. 3, and here it may be well to say, forgings, when annealed, cut just as easy as "normal" product, and for the benefit of any who may now be in trouble with forgings, the speaker will be glad to extend further information about the annealing question. The time taken on the respective

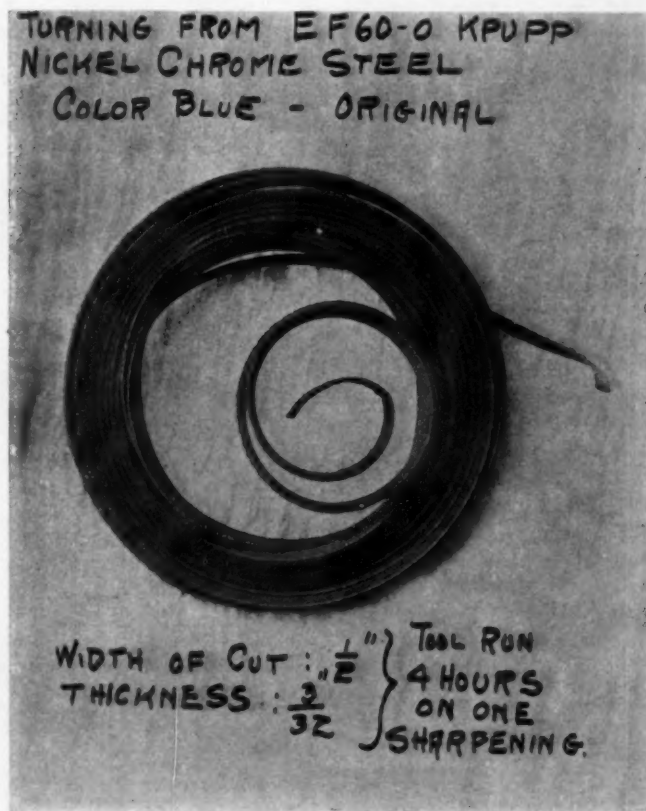
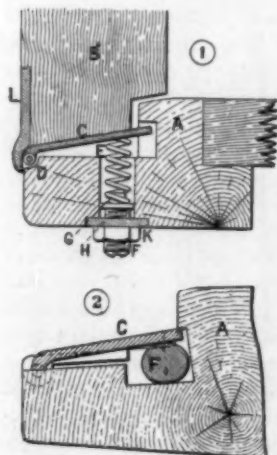


FIG. 2.—Another specimen showing capacity of heavy lathe on alloy steel.

lathes was carefully tabulated for similar parts, and there is no reason to doubt the accuracy of the ratings for the experiment has been going on for several months, and each day proves more conclusively that a large rigid and well-constructed lathe is the best for the purpose. (To be concluded.)

## WHAT AUTO INVENTORS ARE DOING ABROAD

It is not necessary to have traveled much by automobile to know that doors have a tendency to rattle when going over an uneven road surface, or whenever the speed is more than a dog trot. Ferdinand Charron, the well-known French automobilist, has devised a simple little appliance to remove this annoyance.



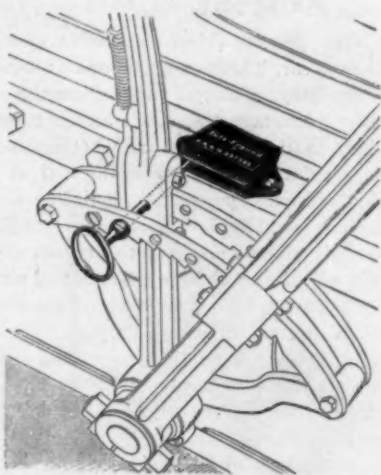
TO CURE RATTLING DOORS.

An examination of the sketch, reproduced from the French automobile journal *Omnia*, will readily explain the nature of the invention. *A* is the frame of the door, *C* is the metal plate hinged at *D* and held against the door *B* by a coil spring *E*. The pressure exerted by the plate *C* against the door is sufficient to prevent all vibration. Provision is made for regulating the tension of the spring by means of the screw *F* passing through metal plate *H* and held in position by nut *K*. Fig. 2 is a variation of the first system, the spring being replaced by a rubber ball *F*. Of course the spring or rubber ball must not be too strong to make any difficulty in closing the door.

With the spring this can be regulated to a nicety, but with the rubber no adjustments are possible. A good point of this appliance is the ease with which it can be applied to any automobile body.

### A Positive Car Locking Device.

Under the title of the "Autofreund," a German manufacturer has just brought out a novel means of preventing the unauthorized tampering with that most important essential of the car, the change speed lever. It is described and illustrated as shown by the accompanying line sketch in a recent issue of *Der Motorwagen*. There is nothing radically new or novel about the idea, but in view of the fact that even the average street gamine is becoming so familiar with some things about the automobile, that it is no longer safe to leave one standing at the curb unguarded, it would seem that some such precaution as this is necessary. The lever may be placed in the neutral or other notch and the lock can be used, and when thus held fast the key must be inserted through an opening drilled through the side bars of the gateways before it can be released. Lock switches, plugs and similar devices serve a good end by preventing the starting of the car, but it would seem that such an arrangement as this would eventually come into use.

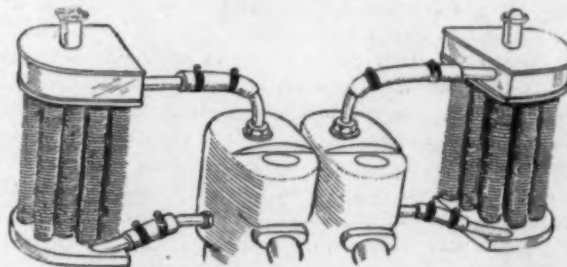


PREVENTS MEDDLING WITH THE GEARS.

### A Light Car of Many Features.

The somewhat unusual idea of using an independent water circulating system for each cylinder, though not entirely novel,

is presented here as but one out of the way feature of a new English "light car" called the Phoenix, described in a recent issue of *Motor* (London). It will be recalled that the Swiss racers built by the Dufaux Brothers some two or three years ago incorporated the water-cooling system directly with the cylinder. The idea in this case is somewhat different, as not alone the radiators but all their parts are practically independent, almost the same as if two single-cylinder motors were placed side by side. The circulation is on the thermo-syphon principle and

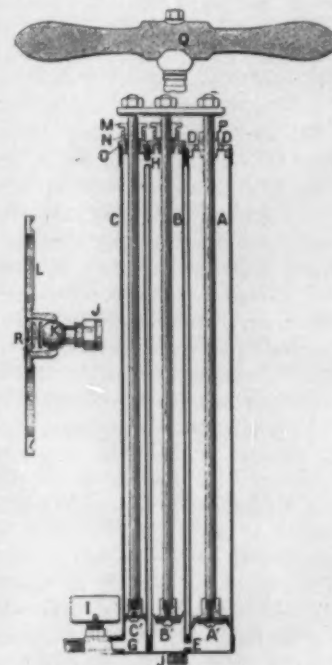


INDEPENDENT RADIATOR SYSTEM OF THE PHOENIX.

the two semi-circular radiators of vertical gilled tubes are placed on each side of the car, with the engine between them, somewhat like the barbettes of a man-of-war. This is not the only unconventional feature—bizarre would be a better characterization, as the vehicle apparently teems with things that are different. It is, in short, a sort of law unto itself. The old time idea of using a two-chain transmission—i.e., a chain drive from the motor to a planetary gear with a second chain from the latter to the rear axle, has been revived among others.

### A New Triple Compression Pump.

A triplex pump which has the advantage of diminishing the labor usually attending the inflation of a big automobile tire has been produced by a French inventor. *Omnia* describes it as follows: There are three cylinders, *A*, *B* and *C*, of different diameters, the pistons of which are all operated by the same handle *Q*. The base of the pump is similar to those in general use; it is shown disconnected on the side sketch. When the handle *Q* is drawn up, the three pistons ascend together, air entering by the hole *D* of the guide *P* in cylinder *A*, passes around the piston and lodges below it. On the first down stroke the air is driven through the passage *E* into the connecting cylinder *B*. At the third movement the air compressed in *A* is compressed again by passing from cylinder *B* to *C* by the canal *H*, for the cylinder *C* is smaller than the others. The air having passed under the cylinder *C* is further compressed on the fourth stroke of the pistons. In this pump there is no lost stroke, for the operator compresses air on both the upward and downward movements.



LABOR SAVING TIRE PUMP.

## SOME HINTS FOR THE OWNER-AUTOIST

By THE MAN AT THE WHEEL.

WITH the advent of the summer touring season in full force, there will doubtless be a recurrence of the string of mishaps, many of them fatalities, that are made so much of by the daily press and in the accounts of which the "deranged steering gear" also figures so prominently. Of course, all automobile accidents of the class in question are not traceable to the steering gear by any means, any more than so many fires of unknown origin are caused by "defective insulation" of the electric-light wiring. Many a fire which the ubiquitous scribe has put down to this cause has been found to have taken place in buildings totally innocent of electric-light wiring of any kind; in the same way more than one fatal collision between an automobile and a wayside telegraph pole which has been attributed to a deranged steering gear, has, in some marvellous and unfathomable manner, left that same steering gear in perfect working order after the shock of the accident. Of course, it may be said that the shock righted it, which is not impossible by any means, but "deranged steering gear" may in numerous cases be liberally translated as "reckless speeding," frequently on an unknown road.

The moral is plain, however, for of all the highly important parts of the car, it is probably safe to say that the steering gear comes in for less attention in the way of inspection than any other which has equally vital functions to perform. It is subjected to severe shocks at all times and the wear on its working parts is considerable, but it is seldom dissected for inspection except when necessity actually demands it. No car should be put in commission for another season's running without having this properly attended to. The entire steering gear, connections and linkage should be dismantled, thoroughly cleaned, and any parts that show undue wear replaced. It should then be well oiled, the drag link packed with fresh grease and covered with pliable leather, all adjustments properly made and carefully reassembled. The opportunity should also be taken advantage of to test the front wheels to see if they track properly; this is not exactly a dangerous fault, but it is very hard on the tires and renders steering more difficult and it may lead to injury.

### Give the Lubricating System a Good Overhauling.

Of course, there are always a great many things to be gone over in putting a car into commission for another season's use after it has been laid up for some time, and if it is possible to give all of them the proper attention, so much the better, but there are some that should never be overlooked on such an occasion, and it goes without saying that an overhauling of the lubricating system easily heads the list. This is more particularly the case where it is characterized by the use of a number of small bore tubes constituting the separate feeds. It is almost impossible to so place the latter that they will not have some part of their length horizontal, and any tendency of the oil to gum in the tubes or any sediment deposited will be concentrated at such points. Even though the tube be otherwise free, the film of oil that coats its interior surface when the feed stops may have hardened, thus reducing its bore considerably. These leads should be dismantled and, if possible, live steam blown through them. Where not available, plugging one end of the tube and filling it with gasoline which is allowed to stand in it some time will serve as an excellent cleanser. It should be supplemented in either case by shoving a piece of wire through the tubes to make certain that they are clear throughout their length. Similar attention should be paid the interior of the mechanical oiler and the sight feeds, while the crankcase should be drained and flushed with gasoline to clear out all traces of the old oil, the same process being applied to the cylinders, thus insuring a start at the beginning of the season with an absolutely clean lubricating system throughout. Proper attention in good season to such essentials as the steering gear and the lubricating system constitute insurance, the worth of

which is not to be underestimated. Neglect has to be paid for sooner or later, at a rate which causes many an autoist to decry the pastime owing to the heavy expense of keeping his car on the road. It is the old, old story of the stitch in time.

### Know Your Own Car and Drive It, Too.

Next to knowing his own car down to the last detail, the owner-autoist who does all his own work should see that he alone does the driving, except when the wheel is turned over to a friend while he is in the car. The subject may appear somewhat outside the province of the present page, but a recent experience which is fresh in mind at the moment makes it opportune to digress a bit to consider whether an automobile is a proper subject to be loaned out at times. Whether he cares to do so or not must, of course, always be a matter for the owner himself to decide; the risk of acquiring some costly experience in this direction is what should prove the deterring factor. Speaking generally, an automobile is not a thing to be borrowed or loaned indiscriminately. No matter how good a driver an autoist may be, no one realizes the needs of a machine to quite the same extent as the man who owns it and takes care of it constantly. Some of these grandstand drivers who can make such an excellent showing before an admiring crowd are notoriously absent-minded when it comes to keeping an eye on the lubricating oil or the water. In the case referred to above as calling the subject to mind, one day's use of a light car by a would-be chauffeur resulted in a bill for repairs amounting to \$50. The engine ran very hot as a usual thing, and if kept on the low gear for any length of time boiled a great deal of water away. The usual thing happened; it is hardly necessary to go into details. Another case that resulted even more seriously grew out of the loan of a car to a friend by a city agent. The friend ran the car all day and part of the night—ran it, in fact, until it would run no longer, because the pistons had seized. In addition to losing the use of the car for a week or more while repairs were being made, the agent had the pleasure of towing it in some twenty miles from where it stranded, and the bill was not light.

### An Opportunity to Economize on Lubricant.

While on the subject of the man who not only runs, but grooms his own car, it will be opportune to mention a method of effecting an economy, which, to judge from the majority of cars, is seldom taken advantage of. Of course, it is nothing one way or the other, to the paid driver, whether the lubricating oil put into the crankcase leaks out again half as fast as it is fed, or not. The "old man" pays for it, and, like as not, the driver curses the machine roundly for giving him trouble in this respect, whereas the only thing necessary to prevent this extravagant waste is a little adjustment in nine cases out of ten. It is always easy to detect a road where a number of automobiles have stood for any length of time, or where they pass constantly, even though it be smoothly paved so that no tracks would ordinarily be visible. The trail of lubricating oil that is over everything is as unmistakable a sign of the automobile as horsetracks on a country road are of the equine motor.

This is true of the older cars particularly; the adoption of the continuous engine pan on cars of later design has in most instances only effected one thing and that is to prevent the oil reaching the ground. It falls into the pan, where it is just as much wasted as if it fell by the wayside. Attention to the end bearings of the motor and gearcase and the joints of the crankcase where the oil-pan is bolted to the upper half, would do much to lessen this waste, though much of it is the direct result of an excessive supply. Remedying such a state of affairs is not alone an economy in oil, but it tends to keep things far cleaner, as a motor dripping with oil collects no end of dust and grit.

## THE CHAUFFEUR VERSUS THE MOTORMAN

By GEORGE RICE

**B**OTH of modern creation, and each operating a machine of power and speed, the right of way is often questioned by the chauffeur and the motor car man. It is true that the motor car of the electrical street line is confined within its tracks. These lines of tracks are held as kind of sacred by many of the

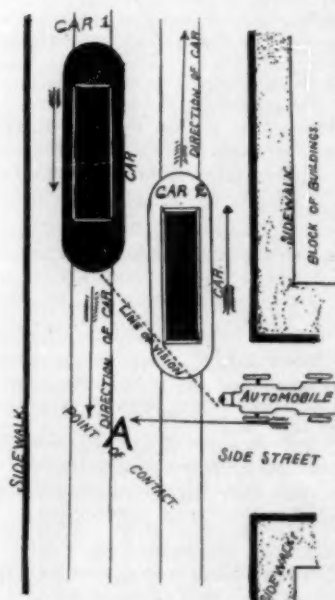


FIG. 1.—Where quick action is necessary.

motormen. But the inconsiderate chauffeur often fails to realize the importance and restriction of the same. He runs his speedy automobile over the line of tracks at will. He follows up cars to get in the suction of the same, thereby avoiding a head wind, provided that the trolley car goes fast enough to suit him. He crosses at critical points ahead of moving cars, and so on, and to counterbalance all this the motorman of the street car line does even worse things. He feels that he has the right of way between the tracks of his line along his route, and, as his car is pretty heavy and strong nowadays, he is liable to insist upon his rights with force. In fact, I have seen demonstrations of his tactics at various points along the car lines. I thought that a good way to get at the bottom of the thing would be to ride for some time on the front of some of the street cars in the congested sections, and likewise through the country, where automobiles were prone to speed.

### Some of the Results of Observation.

I went further than this, and occupied a seat with a chauffeur or two, to get the other side of the question. I had not been on a car long before I observed the motorman apply the brake furiously, while he shut off the power with the other hand. While he pounded the bell, the car shot ahead, and we just barely missed smashing into an automobile which came out of a side street like a wisp-o'-the-hill. Had I been in the motorman's place I could not have done better. He worked quickly and prevented a disaster. The condition was as in diagram Fig. 1. I occupied the front platform of car 1. The car moved in the direction of the arrow. Car 2 moved the other way, and happened along just right to block the line of vision for the motorman of car 1, on the side street. Hence the automobile came out, and the junction of the car and the machine almost happened at (A). The miss was a narrow one.

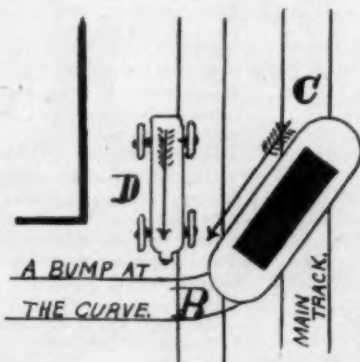


FIG. 2.—A quick turn and a collision.

Then I rode with an automobilist, and the circumstances illustrated in Fig. 2 came up. You can never tell just what a car is going to do. The modern electrical street car moves with considerable alertness in these days of improved mechanical devices. Even the big cars can make a pretty abrupt and quick turn on a curve. We were moving merrily along at good speed in our automobile, following along the line of the track. A car was speeding along in the same direction. Suddenly it turned from the main line (C) down to the cross street, making the curve sharply at (B). We hit this point at very nearly the same time. Our machine was at (D). In another second it was on the dashboard of the car. We got a very substantial bump. Both the car and the automobile came to a stop in the nick of time, otherwise there would have been some serious damage done. As it was, we got out of it with some scratches and abrasions on the machine and car, not overlooking a few on our own persons. After passing the usual compliments of the day with a varied assortment of cuss words, the conductor of the car took the event down in writing and inscribed the names and addresses of the interested witnesses, and then we passed on.

### From Rear of Trolley.

Then I rode on the tail end of a trolley car, because I happened to observe a party of automobilists following it up. I had been told that it was dangerous business to follow close in the wake of a car. After the accident (for an accident happened this time) the chauffeur told me that he liked to get in the wind of a car and ride easily along without the breezes fanning his cheeks. FIG. 3.—Just in time to meet head-on. I told him afterwards that he ought to put up a wind guard. A wind guard is safer, better and cheaper than utilizing car property for this service. Well, the chauffeur pushed on back of us. He seemed to be very placid. I wondered why the party in the automobile did not reach forward and give the fellow a punch. But he did not. Our car, marked (F) in Fig. 3, suddenly slackened. The chauffeur was on us in his automobile (E). He saw he could not check his machine quick enough to avoid a bump, and therefore he turned off to the other track at (H). Unfortunately, a car (G) was due at that point at that time, and the car was on time. The two came together with a bang. Fortunately no one was hurt badly. But the front of the car (G) and all of the forward end of the automobile was rendered quite unfit for future use. The conventional diarying of episodes was made. Names (most of them fictitious) were taken down for future reference in the courts in the event of claims for damages, and the wrecked machines were towed home very much the worse for wear.

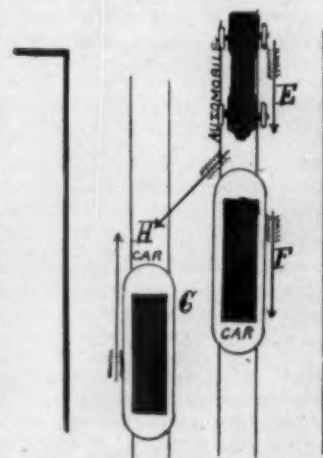


FIG. 3.—Just in time to meet head-on.

### The Menace of the Trailing Wire.

I thought that I was done, but there was more to come. A baby cyclone had struck town, and some of the poles of the power company were broken off as shown in Fig. 4. A lineman was up on one of these poles, with a long wire trailing to the street. The upper portion of the pole had been snapped off by the wind, the pole top being supported by the many wires. The trailing wire wound up on the hub of a driving wheel and pulled the tottering pole top down more and more, with the lineman

making timely remarks. It is very unsafe to run over wires hanging from poles. They might be charged and you might get a shock. It is best to avoid them.

The final incident to which I shall refer is exemplified in Fig. 5. We were scudding along in grand order, through a congested section, when a car came out of a cross street rounding a curve

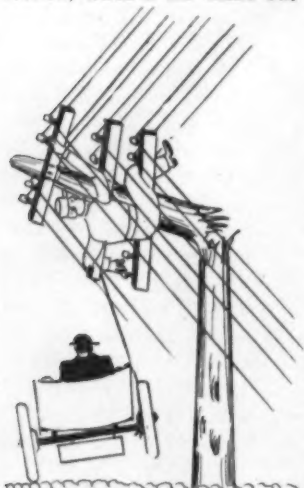


FIG. 4.—Illustrating the trailing wire and broken pole incident.

at our front. There seemed for all the world plenty of space between the fore end of this car and the side of a car which was passing on the other track. But the modern cars are long and the ends often reach far over the curve of the track when making a turn. So it happened in this case. The front of the car swung clear forward and out, and the machine got a good squeeze, as illustrated. I am inclined to believe that both chauffeurs and motormen do all they possibly can to avoid accidents. Nevertheless, in the rush for making time, the machines come into contact occasionally. But both the modern trolley car and the automobile are heavy bodies, and the amount of energy stored up in them when they are moving even at a moderate rate of travel is only realized when they happen to strike an obstacle. Means of control are proportioned to the size and weight of the cars, but long familiarity with danger makes even the most careful of drivers, whether of automobiles or electric cars, a trifle reckless, and sooner or later they miscalculate. Of the two, it almost goes without saying that the motormen are far more careful as a class than the automobile chauffeurs. Anyone who rides on city street cars for any length of time, and carries his powers of observation with him, cannot fail to notice this at every turn. The instant response to the throttle and the absolute certainty with which the vehicle can be brought to a stop within an amazingly short space, make for a control on the automobile that is equalled by nothing else that travels on wheels. And it is in the mastery of his car in difficult situations that the driver delights. Running beside a trolley car at ten or twelve miles an hour, he spies a truck half a block ahead; a car bound in the opposite direction is coming along at full speed on the other track. Prudence would dictate a slow-down and a momentary

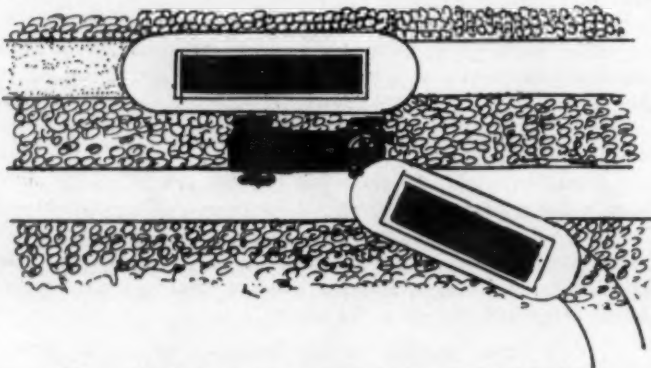


FIG. 5.—Caught between two street cars where one of them turns.

halt for a clear way ahead, but skill at the wheel and levers whispers "You can do it," and though the car is a long one, and there are women and children passengers in the tonneau, he whips the throttle lever down a dozen notches, a quick turn of the wrist on the steering wheel and the trick is done, with the automobile now traveling serenely in front of the trolley car and what appeared to be an impending tangle far to the rear.

## THE AUTOMOBILE CALENDAR. AMERICAN.

### Shows and Meetings.

- Oct. 31-Nov. 7....—New York City, Madison Square Garden, Eighth Annual Automobile Show, Association of Licensed Automobile Manufacturers.  
Nov. 30-Dec. 7....—Chicago, Coliseum and First Regt. Armory, Eighth Annual National Automobile Show and First Annual Commercial Vehicle Show, National Association of Automobile Manufacturers.

### Races, Hill-Climbs, etc.

- June 6.....—New York City, 200-mile Endurance Run, under the auspices of the New York Motor Club.  
June 8.....—Cleveland, Third Annual Gates' Mill Hill Climb, Cleveland Automobile Club.  
June 12.....—National Orphans' Day, instituted by the American Automobile Association.  
June 19-22.....—New York City, Sealed Bonnet Contest, under the auspices of the Automobile Club of America.  
June 20.....—Albany, N. Y., Annual Tour of the Albany Automobile Club; Route, via New York and Asbury Park, to Atlantic City.  
June 27-28.....—Chicago, Elgin-Aurora Reliability Run, Chicago Motor Club and Chicago Automobile Trade Assn.  
July 10.....—Cleveland, O., Start of Fourth Annual Tour of the American Automobile Association, for the Glidden Trophy. Finishes in New York City on or about July 23.  
July 13.....—Chicago, Race Meet for the Entertainment of the Glidden Tourists, Chicago Automobile Club.  
July 25-28.....—Providence, R. I., Annual Meet of the Federation of American Motorcyclists.  
Aug. 1.....—Algonquin, Ill., Hill Climb, Chicago Motor Club and Chicago Automobile Trade Association.  
Sept. 5.....—Chicago, Cedar Lake Economy Run, Chicago Motor Club and Chicago Automobile Trade Assn.  
Sept. 14.....—Albany, N. Y., 95-mile Road Race, under the auspices of the Albany Automobile Club.  
Oct. 19.....—St. Louis, Mo., International Aerial Race of the Gordon Bennett Prize. Aero Club of America.

### Motor Boat Races.

- June 8.....—670-Mile Ocean Motor Boat Race, New York to Bermuda. Motor Boat Club of America and Royal Bermuda Yacht Club.  
June 15-28.....—Kiel (Germany) Motor Boat Races.  
July 20.....—New York to Marblehead, Mass., 270-mile Motor Boat Race. New Rochelle Yacht Club.  
August 22.....—New York to Jamestown (Va.), Annual Cruise American Power Boat Association.  
Sept. 2-6.....—Jamestown (Va.) Exposition, Motor Boat Races.

## FOREIGN.

### Shows.

- June 25-30.....—St. Petersburg, Russia, Automobile Show.  
Nov. 12-Dec. 1....—Paris, Exposition Decennale de l'Automobile, Grand Palais, Esplanade des Invalides, Automobile Club of France.

### Races, Hill-Climbs, etc.

- June 3-12.....—Paris, Electric Vehicle Competition, Automobile Club of France.  
June 3-12.....—Herkomer Cup, Automobile Club of Bavaria.  
June 10.....—Pekin-Paris Automobile Tour, Start from Pekin, Inaugurated by "Le Matin."  
June 14.....—German Emperor's Cup, Taunus Circuit, Imperial Automobile Club.  
June 20-22.....—American Gold Cup, Start from New York of European Tour for American Cars, Georges Dupuy, secretary, 1402 Broadway, New York City.  
June 14-29.....—Scottish Reliability Trial, Scottish Auto Club.  
July 2.....—Grand Prix, Automobile Club of France.  
July 14, 1908.....—Paris to London, Aerial Race.  
July 15-18.....—Ostend Week, Record Trials, Automobile Club of Belgium.  
July 21.....—Ardennes Circuit (Belgium).  
July 31.....—Liederkerke Cup for Touring Cars, Ardennes Circuit, Belgium.  
July 31-Aug 8....—Belgium Regularity Contest for Touring Cars, A. C. of Belgium.  
Aug. 1-7.....—Criterium of France, 1,750 Miles Touring Competition and 250-mile Race for the Press Cup. A. C. of France.  
Aug. 11-29.....—France, Coupe de Auvergne.  
Sept. 1.....—Italy, Brescia Circuit, Florio Cup. A. C. of Italy.

## LETTERS INTERESTING AND INSTRUCTIVE

### That Old, Old Best Car Question Crops Up Again.

Editor THE AUTOMOBILE:

[764.]—I see in the issue of "The Automobile" of May 16, that a Thomas car holds the record for climbing Mt. Hamilton. Now, as my father owns a car of this make (Thomas), I am very anxious to learn what car held the hill-climbing record before the Thomas, and what car it offered to help tow on the way up.

I would also like to ask which make of the following is, in your opinion, the swiftest, the best hill-climber and the best car to maintain: Thomas, Packard, Pierce, Locomobile, Peerless, Matheson, Lozier and American Mors. Also the one that you favor most. Will you please tell me which type of brakes you favor most, the internal expanding or external contracting.

A quick reply will be appreciated.  
Cornwall-on-Hudson, N. Y.

WALTER SELIGMAN.

Our communication from which the article you refer to was taken was silent both as to the name of the car which previously held the record for the Mt. Hamilton climb, or the car that was found stranded half way up and a tow offered, so that we cannot assist you in clearing up those points.

Your question regarding the best car made is one that has been asked ever since there has been such a thing as an automobile. If a hundred autoists were asked this question, it is very probable that there would be pretty nearly ninety-nine different answers, and each would be quite as conclusive and convincing in the estimation of its giver as it could possibly be made, if care had been taken to choose a hundred people who owned as many different makes of cars. Take it the other way round, and select a number owning the same make of car, and in all probability there would be a considerable diversity of opinion as to its standing, particularly with regard to detailed features of design and construction, as there are many, many owner-autoists who could have built their cars so very much better than the man who was responsible for it—in their own estimation, of course.

Automobiles have now reached a stage where the saying about pretty girls applies to them with equal force; all girls are pretty and all girls are nice, but some more so than others. The same is true of automobiles, with the further distinction that there is "the best car for the price," the "best all round car" and several other kinds of best cars. But the distinction you refer to on the score of hill-climbing is entirely a matter of changing the gear ratio to suit the conditions involved. A car geared for very high speed will be slow on the hills and vice versa, regardless of its make. Your list includes a number of the most representative makes turned out in this country, and the choice of any one is purely a matter of personal preference. Regarding your inquiry on the subject of brakes, the majority of modern cars are fitted with both types of brakes, usually placed on the same drums, fixed to the driving wheels. The internal expanding brake is generally pedal operated and is known as the running brake; the external contracting brake constitutes the emergency brake and is operated by the hand lever.

### Methods of Radiator Construction.

Editor THE AUTOMOBILE:

[765.]—To settle a difference of opinion, can you tell me whether there are any standard and well-known water-cooled automobiles on the market to-day, in which the radiators are manufactured by electroplating the copper onto molds or forms?

Santa Fé, N. M.

MANUEL GUITIERREZ.

So far as we are able to ascertain, there are none. The Dufaux cars, made in Switzerland, were turned out a year or so ago with electrolytically-formed radiators, but we understand this construction is now given up. The De Dietrich cars, however, still have radiators built up of soldered-together members which are separately formed electrically. The difficulty that seems to prevent the general manufacture of complete radiators in this way seems to be with the thickness of the metal deposited, which it is almost impossible to get uniform.

### High and Low-Tension Ignition Sparks Compared.

Editor THE AUTOMOBILE:

[766.]—In a recent issue you expressed the opinion that the difference in sizes between a jump-spark and a make-and-break cannot be responsible for much difference in time, and gave some figures as to the time required for flame to propagate from a minute point to a size as large as a make-and-break spark. I feel that you do not grasp the situation properly. You can readily see that a fire kindled in the middle of a house may take half an hour or an hour to burn the house, but that when one house is well started, it may set fire to and burn the next one in ten minutes. I mention this simply to bring out the fact that flame propagation is not necessarily at a fixed rate, and that it takes decidedly longer to ignite with a small spark which is barely hot enough to support combustion at all, than it does with a large spark which sets the charge going without delay. I consider it the difference between lighting a fire with a match and scanty kindling in one case and with a torch and ample kindling in the other; and believe it may take as long for a jump-spark to ignite a sphere of gas as large as a pea, as it does to ignite the remainder of the charge after the flame has gained this size.

I believe, and authorities on explosives make similar statements, that there is also a difference between mere ignition and detonation. If a charge of dynamite or gunpowder gives more velocity when fired with a percussion cap than when fired by a fuse or match, why should not an explosive charge of air and gasoline do likewise? Certain it is that considerable difference in power results when a large spark is used. This may be supposedly explained in connection with the jump-spark by saying there is less lag to the coil, which acts quickly with a strong current; but this explanation does not hold good with the make-and-break spark, which acts in the same time, regardless of strength of current. A make-and-break, as ordinarily constructed, must be connected long enough to give a full spark at the highest possible speeds of the engine. This means that it is connected too long with speeds lower than this, so there is no question about the coil being fully saturated, whether the current is full strength or not; and since the spark must occur at the same time, we can only assume that the strength of the spark affects the power of the engine, for there seems to be nothing else to account for this decided difference.

You mention that one spark may be hotter than another in some way not understood. I think the hottest spark propagates most swiftly, and that this partly explains, if not wholly, the difference. A comparison of size of the two sparks may interest your readers. It is well known that compression decreases the size of the jump-spark, but that the make-and-break arc follows the points as they separate and preserves the path for itself, so that it is not decreased by the compression. Also, whereas an engine with a weak jump-spark may refuse to fire at high speeds because of higher compression and yet fire readily at low speeds when the compression is less because of some leaks; the make-and-break spark shows the opposite tendency, and fires best at higher compressions. This simply proves that high compressions do not lessen the make and break spark, and shows that to properly compare without compression, the jump-spark should have its points widely separated, say one-fourth inch. With such points draw a sheet of paper between them while the spark is passed and hold it to the light so the minute holes burned by the spark can be seen. The amount of paper burned by each spark is the correct measure of its heat value. The make-and-break cannot be tested without a contact, so fasten a sheet of paper about 1-32 inch above a metal plate and with a sharp point like a pin make contact with the plate through the paper. Then suddenly, the quicker the better, break the contact and a large spark will follow the pin up from the plate, burning a hole in the paper 1-8 inch in diameter and frequently continuing to burn. When the length as well as the cross section is considered, judging from the comparative holes, it will be seen that the heat of the make-and-break spark is simply enormous as compared with the jump-spark.

Reading, Pa.

CHARLES E. DURYEA.

We take pleasure in publishing your comparison between the jump spark and the make-and-break or low-tension spark, together with your reasoning and deduction that the latter is the more efficient owing to its much greater size and consequent increase in heat. This with regard to the inquiry of Ralph Walker, letter No. 745, in the last issue of THE AUTOMOBILE. While the test you describe would appear to be conclusive as to the matter of the ignition capacity of the two types of sparks—or, in other words, their relative ability to set things afire, we think there is

considerable difference of opinion on this point when it comes to exploding the charge in a gasoline motor. It is conceded that the heat of the spark, whether at the primary or secondary terminals, increases proportionately with an increase in the current, from which it should follow that the greater the current used in the case of a jump spark system, the better the results to be obtained from the motor. But according to those authorities who have investigated the subject (the most recent and exhaustive report being that of W. Watson, D.Sc., F.R.S., whose paper read before the Royal Automobile Club, was published in *THE AUTOMOBILE* on March 21, 1907), this is not the case. It was there shown that apart from the greater magnetic lag in the core of the primary coil and the consequent need for more advanced timing, the use of a weak current short of one insufficient to fire the charge at all, had little or no effect on the indicator diagram given by the motor. Nor did the width of the gap between the spark plug points have any apparent effect on the power, the net result of the extended experiments made being that the power developed was the same whether a greater or less amount of current was used; or, in other words, whether a large or small spark fired the charge. There is a great deal to be learned on the subject, and we should like to hear from others who have made similar experiments or who hold theories of their own in the matter, as it is one of considerable general interest.

#### A Rather Puzzling Refusal to Start.

Editor *THE AUTOMOBILE*:

[767.]—I am enclosing a question for your valuable department "Letters Interesting and Instructive," and would be pleased to see an answer printed in that column in the near future.

I have a two-cylinder runabout that I have run for three years, with perhaps less than the usual share of trouble. But last fall it became so that I was unable to start the motor without pouring hot water over the carbureter, and that trouble has continued up to the present, in spite of the change in the weather, which is now warm. Even on a good warm day it is impossible to leave the car standing for an hour without having to warm the carbureter again in order to start. Squirting gasoline into the cylinders when only partially cooled off will start it, but in the morning this is not the case, for as soon as what has been injected is used up the motor comes to a stop. But once started, the motor never ran better than it does to-day. Before I could always start with a little extra cranking, even in winter weather. A reply will be greatly appreciated by  
JAMES P. MELZER.

Milford, N. H.

Granting that there has been no change in the character of the fuel you have been using during the period in question, it would look as if the trouble you are experiencing was due to some carbureter derangement, such as the dropping of the float on its spindle, thus reducing the fuel level in the float chamber to such a point that it is impossible for the motor to draw any through the spray nozzle of the carbureter until it has been running some time, which would account for your inability to start by cranking. The effect of heating the carbureter would be to raise the level of the liquid and also to vaporize considerable of it which would then be forced through the nozzle, creating a mixture. The fact that you can always start by injecting gasoline through the petcocks shows conclusively that the failure of the motor to start on the crank is due alone to the lack of fuel. Exactly what constitutes the moving cause of the latter is somewhat difficult to say with certainty, though there appears to be little doubt but that the dismounting and thorough inspection of the carbureter should reveal it. Our opinion that it may be due to the cause outlined can naturally only be a theory under the circumstances, but it is probable that something similar will be found to be at the root of the trouble, though as a matter of fact, the action of the motor, as you describe it, coincides very closely with what would occur where kerosene or other heavy fuel is being employed instead of gasoline. If there are any of our subscribers who have experienced trouble similar to the foregoing and are, as the result, of having successfully overcome it, in a position to shed any light on the matter, we should be pleased to give their views space in this department. We would also be pleased to

learn the result of any experiments you make with a view to overcoming it, as the case is an unusual one and, accordingly, of general interest, particularly as difficulty in starting is generally the bugbear of the average autoist.

#### FOR AUTOISTS ENTERING AND LEAVING PARIS.

Editor *THE AUTOMOBILE*:

[768.]—Francis Miltoun's excellent articles on touring in France give a wrong impression of the highways around the French capital. Automobilists visiting Paris are apt to give a cursory examination of the map, select the widest and most direct road into the city, and curse all Parisian inlets ever after. I have had occasion to journey by bicycle, motorcycle and automobile on the highways around the fortifications too often to propose a benediction on their behalf. Certain stretches tackled in a light car with a dare-devil French driver at the wheel provide more sensations in five minutes than any other known sport in five days. But everybody who is more than a passing stranger to Paris knows that the paved highways need never be traveled over in leaving or arriving at the city. Francis Miltoun says that it is twenty kilometers of shockingly bad roadway to St. Germain, mostly pavé. True, if you take the main road along with the wheezy local train and the market carts. Wise motorists, however, leave the city through the Bois de Boulogne, cross the Seine at Suresnes, climb the Suresnes hill, turn sharp to the right under the railway, pass behind Fort Valérien, and reach St. Germain by a road comprising twenty feet of pavé and as many kilometers of excellent macadam. When advising travelers to stay at Versailles in order to avoid the twenty kilometers of nerve-racking road into the capital, Francis Miltoun must be thinking of the old highway via Viroflay and Sèvres. That too has been abandoned to the steam car and market cart, the modern road from Versailles to Paris being by the Côte de Picardie, Ville d'Avray, St. Cloud, Suresnes, and Bois de Boulogne. It is a hilly road, but, excepting the short Suresnes hill, has an excellent macadam surface, not an inch of pavé, and is moreover perfectly dustless, the entire twenty kilometers having been recently treated with tar. Rambouillet pavé is all Mr. Miltoun designates it; but there is a loop road at Rambouillet, all macadam, which removes the necessity of jolting yourself and your car to pieces through the old hunting town. A Taride detailed map of the environs of Paris will show how to get into the capital from almost any point without suffering pavé tortures. Any well-informed Parisian chauffeur will point out a score of routes which would have saved Mr. Miltoun unpleasant sensations on his journeys into Paris. Good work has been done by the Touring Club of France in opening loop roads through or around pavé-stricken towns. Examples of this are to be found between Paris and Fontainebleau, the macadam loop roads being indicated by conspicuous sign posts. The loops vary in length from a couple of hundred yards to several miles.  
W. F. B.

New York City.

#### A CHAUFFEUR AGREES WITH MR. ATKINSON.

Editor *THE AUTOMOBILE*:

[769.]—In this week's "Automobile" an article on "How to Extend the Life of an Automobile," by A. S. Atkinson, fully confirms what I have found out. I am a chauffeur driving for a private party, and by following the same kind of rules suggested by Mr. Atkinson I have found I have more time to myself and no road repairs to speak of; the car is always ready to go out at a moment's notice, and is in first-class shape. The following are a few rules that have helped me, and might be of service to others:

Always inspect the car at the end of a run, tighten nuts, etc.

See that the oil is at the proper level and the grease cups are full; also that the gears have the right amount of oil and grease mixture.

See that batteries are connected and if the plug connections are tight, and once a week test batteries to see if they need recharging.

Fill the tank and always strain the gasoline, using chamois or gauze; also strain all water that is put into radiator.

See that the tires are hard enough, and if there is a small cut in the shoe, fill same up with cement, for if you don't it will increase until a blowout is the result. A good plan is to put fresh air into the tires once a month and shift the shoes a bit, as they will not be so apt to rub in one place, and if my car has had hard driving for any length of time I shift the shoes, putting the front ones on the driving wheels.

Never leave the car with its gears in mesh. Always have the lever at the neutral point, making it foolproof.

The above rules have been invaluable to me, and may help some one else.  
M. W. BATES.

Nutley, N. J.



RAMBLER MODEL 245 IS A SOLID LOOKING CAR.

**A**MONG the special designs listed by the makers of the Rambler cars at the opening of the season was their Model 24, embodying several distinguishing features, particularly in its transmission mechanism and rear axle unit. So successful has been the reception accorded this car that Thomas B. Jeffery & Co. have recently placed on the market two additions to their already complete line. These are known as Models 147 and 245, respectively, and are distinguished by the same features of construction and equipment as the Model 24, referred to above. The Model 147 has been designed particularly to fill the demand for a modern four-cylinder car with a comfortable seating capacity for five persons, to list at a very low figure. It will be evident from the following description of this car that its makers, with their tremendous facilities for turning out vehicles in quantity and their well organized purchasing and manufacturing departments, have scored very heavily in the production of Model 147. Neither quality of material nor workmanship has been sacrificed to make the lower price possible, the difference between it and the Model 24 being due solely to its smaller size, decrease in power; though it is, on the other hand, sold with a more complete equipment in that the selling price covers a cape top complete, with the usual front and side storm curtains.

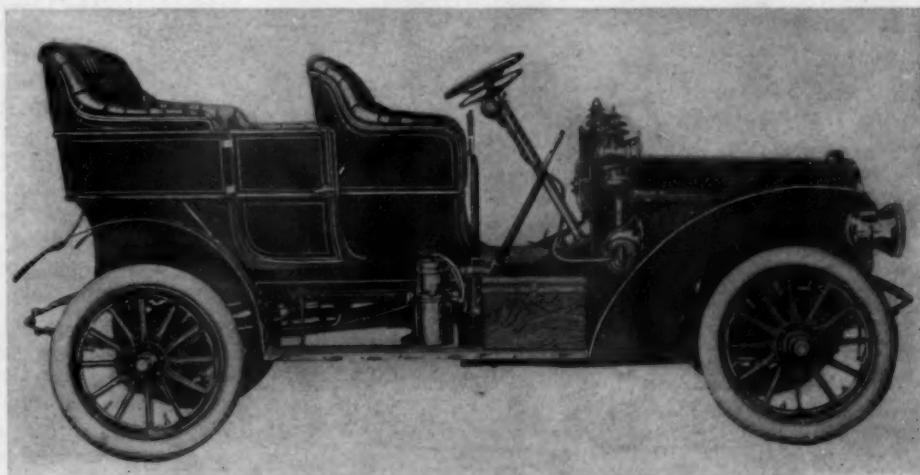
**Details of Model 147.**—The chassis consists of a pressed-steel frame, strongly cross braced and supported on a suspension distinguished by the use of full elliptic springs in the rear and long semi-elliptics forward. The front axle is of seamless tubular construction reinforced by a solid bar, while the steering knuckles are extra heavy and are supported on ball bearings. The rear axle is the same as that used on the Model 24, the axle housing being of heavy seamless tubing made integral with the differential housing of cast aluminum by a special process controlled by the makers. The differential is of the spur gear type and is distinguished by the use of large pinions made integral with their supporting shafts. End thrust is taken up by means of a large ball bearing placed on either side of the differential case. The axle is of the floating type with the wheel ends of the shafts supported on roller bearings placed outside of the tube.

The motor has separately cast cylinders measuring 4 by 4 1-2 inches bore and stroke, respectively, and develops 20 to 25 horsepower at a moderate normal speed. The valves are located in the cylinder heads and

are placed in removable cages, thus facilitating their removal for inspection and repairs; they are operated by rocker arms actuated from a single camshaft, thus simplifying the design, while their placing is conducive to greater efficiency by facilitating the scavenging of the cylinder and reducing the area of the combustion chamber. This car lists, complete, at \$1,750, and by complete here is meant a full-sized cape top of good quality, side curtains and storm apron in addition to the regular equipments of lamps, horn and tools.

**Rambler Model 245.**—This is a 35 to 40-horsepower car which is distinguished from the model just described principally by the fact that it is equipped with a larger motor, and the car itself is made proportionately larger throughout to correspond. The motor measures 5 by 5 1-2 inches bore and stroke, respectively, and is of identically the same type as the one already described. It embodies a number of special features of design and the motor as a whole has been evolved by the Jeffery designers as the result of several years' experience in turning out a large number of cars, the majority of which are purchased by owners who drive their own cars, so that simplicity and accessibility have been held paramount. The matter of economy of maintenance and ease of handling have also been considered at length in order to meet the needs of this particular class of buyers as much as possible.

One of the features of chief interest about this car is to be found in its system of transmitting the power. It is provided with the new Rambler type of change-speed gear located on the forward end of the propeller shaft, thus dispensing with the use of a cardan joint at that point, while its position also brings the weight of the gear-set on the frame instead of the rear axle. It is of the progressive type of operation, but trouble from this source has been eliminated by the use of a balanced gear on the lay shaft. The driven pinion at the forward end of the lay shaft is not keyed direct, thereto, but is seated on the hub of a pair of radially extending arms. This member is keyed to the shaft and the arms project into openings in the web of the driven gear with a play of about 10 degrees. A pair of oppositely disposed springs in each arm serve to hold the latter normally in a balanced position midway between the two bearing faces in the web of the gear, so that in engaging the shaft is allowed to yield slightly, thus permitting the easy meshing of the shifting pinions.



MODEL 147 OF THE RAMBLER FAMILY, ANOTHER NEWCOMER.

### NEW LINE OF CONTINENTAL MOTORS.

In order to meet the demand for a high-class motor to be used on high-powered cars, the Continental Engine Company, 503 Fisher Building, Chicago, has just brought out a new type, 45-50-horsepower motor, designed along lines favored by the best engineering practise of the day. It has been carefully tested and thoroughly tried out on the seven-passenger Pullman cars, built by the Pullman Motor Vehicle Company, Chicago, so that the makers are now putting a large lot through their works, an elaborate set of jigs, dies and templates being employed for exact duplication.

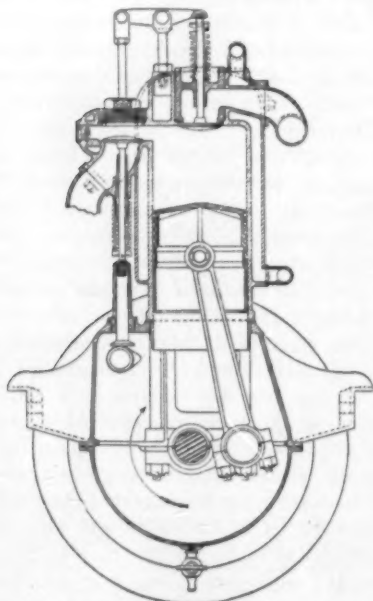


FIG. 1.—End elevation showing offset.

The cylinders, which measure 5 by 5 1/2 inches, are cast independently, the 1 3/4-inch .40 point carbon steel crankshaft being supported on five long bearings, the end ones of which are fitted with oiling rings. The cylinders are offset on the crankcase in order to reduce the thrust on the power stroke, and the same is true of the camshaft, which is offset from the plunger rods. This gives an improved balanced action, the roller type of plunger rod having been superseded by a new disk revolving plunger rod which gives a positive action with a minimum amount of wear. The camshaft is a hollow piece of tool steel and is supported on three ample sized bearings of white bronze, the latter also being used in the main bearings of the crankshaft, all being of the die cast type.

The crankpins are hollow and the crankshaft as a whole is balanced after the flywheel has been bolted to the six-inch integral flange, the cranks being carefully aligned centrally with the connecting rods and cylinders. The connecting rods are of die-forged steel and are of I-beam section, with large light bearings at each end, closely fitted at the low or big end, and with provision for side play at the wrist pin. The pistons are care-

fully ground in taper all over and only tip the scales at five pounds complete, the grooves and rings being carefully ground to a gauge sidewise to prevent any leakage. The piston pin is a hollow piece of hardened steel 1 1/8 inches in diameter, and is retained by a hardened steel snap ring in a groove about the piston so as to clear the cylinder, beside serving as an oil reservoir for the piston pin bearing. It will be noted that the exhaust valve is placed in the head centrally, while the inlet is at the side, though both are operated from a common camshaft. The former is seated in a removable cage, both this and its location adding greatly to the efficiency and convenience of the motor, as it provides a direct exit for the exhaust beside permitting the placing of the inlet and exhaust manifolds on opposite sides with but a single camshaft.

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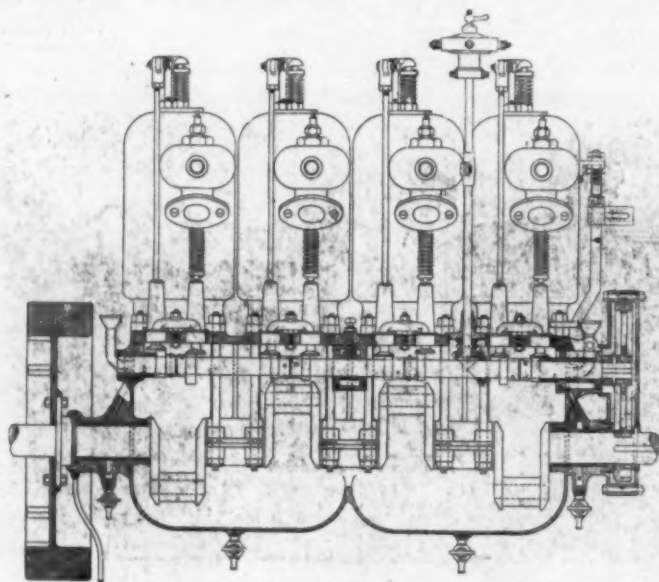


FIG. 2.—Side elevation of Continental motor, camshaft side.

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### REMINISCENT OF MEDITERRANEAN BOAT RACE.

Discussing the seaworthiness or otherwise of motor boats, Georges Prade relates an amusing incident, not previously made public, of the Alger-Toulon motor boat race, in which it will be remembered all the boats but one finished their cruise at the bottom of the Mediterranean. The big automobile cruiser *Malgré-Tout* was towed out to Alger by a British craft which demanded \$10,000 for this little service. The motor was mounted on carriage springs, which broke during the voyage, placing the motor much lower than the propeller shaft.

The day of the race the engine was cranked with the shaft disconnected, and the boat went out of the harbor under sail, with the roar of the motor in a metal hull as an accompaniment. There was little wind, and the passage out of the harbor was so slow that when she reached the open sea the only craft visible was the torpedo boat destroyer appointed to act as escort. The skipper of the motor boat was an intimate friend of the commander of the torpedo craft.

"Where are the others?" he shouted.

The commander pointed to a few black specks on the horizon.

"All right, pass us the end of a tow rope. Make yourselves comfortable, boys."

The boys did make themselves comfortable; one took a violin, another squeezed and stretched an accordeon, and a third busied himself in the galley with the bouillabaisse soup, in which the garlic was not spared.

Mahon was reached at night.

"Stand by to cast off; hawl on the main sheet, up with the jib; crank the engine," were the orders that rang out with a snap and a true accent of the Midi.

With her engine roaring, and her shaft as useless as a log, the craft entered harbor, where the enthusiastic population gave a true Southern welcome to the glorious but modest heroes of the sea, the victors of the trans-Mediterranean race.

### TOLD TO ILLUSTRATE ABSENCE OF VIBRATION.

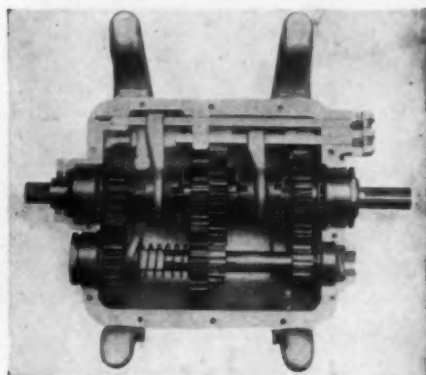
Here is a good and interesting story from the indefatigable press agent:

"Wm. H. Moffitt's 40-horsepower Lozier car left Islip, Long Island (forty miles from New York), one day last week, and before starting, the driver in searching through his pockets for a tool-box key, took out three coins and laid them on the running boards. One hour and forty-five minutes later, what was the driver's surprise on stopping on board the ferry at Long Island City to find these same coins on the running boards where he had left them.

"A story of a similar nature is told by Mr. Michener, demonstrator for the Lozier Motor Company. He, during the winter while taking a photograph of a Lozier car in a winter snow scene on the shore road, twenty-five miles north of the city, left a camera on the running board and did not discover it until pulling into the garage in New York City, it having remained in the same identical spot where it was left, not having moved during the entire trip of twenty-five miles over roads of snow and ice."

### NEW JAW CLUTCH SLIDING GEAR-SET.

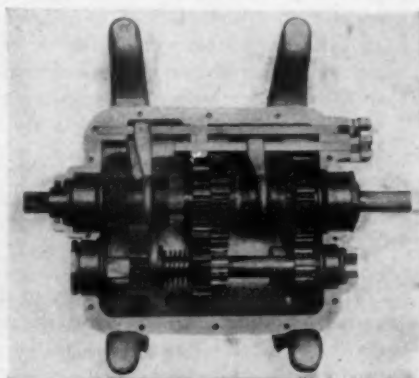
Endless schemes and innumerable modifications of the sliding gear idea have been created. An improved form of gear-set has been invented by Charles Cotta, of Rockford, Ill., who is now placing it on the market. The inherent limitations of size and space naturally restrict the amount of material that may be put



FIRST POSITION.

in the pinions themselves, so that no matter how good that material may be, the teeth of the gears always represent the weakest point of the entire device. To avoid the necessity of bringing the pinions together as much as possible, the selective type of gear-set in which there are two sliding

spools, has come to be the most generally used, and in designing his improvement the maker of the gear-set shown in the accompanying illustrations has taken advantage of this fact and still further improved on it as shown by the accompanying illustrations. This new gear-set provides three forward speeds and a reverse, while on the high-speed the drive is direct with all gears and the lay shaft idle. The pinions for the intermediate, slow and reverse speeds remain permanently engaged with the corresponding gears on the countershaft. They are bushed with bronze, and rotate loosely on the driven shaft. This does away with the necessity of constantly shifting them to effect the different changes of speed, and instead of the relatively small amount of working surface afforded by the gear teeth, sliding jaw clutches are provided as being much better adapted to withstand the shock of engagement, the maker's aim being to place a maximum amount of material where it is most needed in order to withstand the severe service required of a gear-set. The speed ratio is so arranged as to be uniform between the slow and intermediate and between the intermediate and high speeds. The highest grade of steel is employed and both shafts are supported on Timken roller bearings to minimize friction.



SECOND POSITION.

### THEORY AND PRACTICE NOT IN ACCORD.

Many interesting calculations have been made as to the striking force of an automobile traveling at various speeds, a favorite being the mile-a-minute clip. According to these nimble figurers, the impact is so terrific as to be practically inconceivable, a car meeting an obstacle at this pace stopping with a force of several million foot pounds. Another has it that such a collision would be equivalent to dropping a car off the roof of a skyscraper. Taking these calculations at their face value, there should not be "a whole bone" left in the car, but this has seldom if ever been fulfilled in practice, as many of the cars that have made these sudden and unexpected stops have survived as far more than the assortment of disintegrated atoms pictured by the calculator.

### UNIFORM COMPRESSION IN CYLINDERS.

As the design of multiple-cylinder engines for automobile service becomes better understood, and their use more general, the demand for smoothly running engines has increased, says E. J. Bartlett in *The American Machinist*. This is causing some manufacturers to devote more attention to uniform compression in the different cylinders. Unless the entire combustion space is accurately machined, which is usually impracticable owing to the valve and igniter cavities, there is liable to be enough varia-

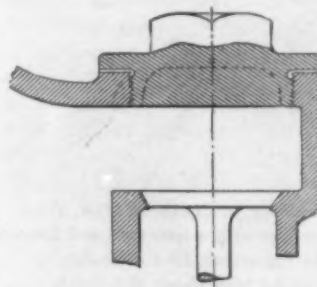


FIG. 1.

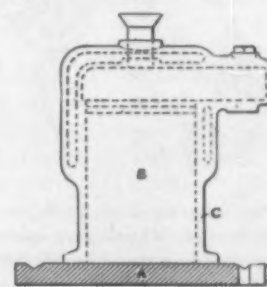


FIG. 2.

Method of machining to obtain uniform compression space.

tion in the cylinder castings so that the power developed in the different cylinders varies to a noticeable extent. During recent tests on some medium-sized four-cylinder engines the fact was brought out that this variation may be several cubic inches in the different cylinders of the same engine.

When one considers that the explosive power is perhaps roughly four times the compression, as registered by a gage, it is not difficult to see that this variation should be guarded against.

A convenient way to overcome the difficulty is to design some of the inserted parts, such as the cylinder-valve plugs, so that more or less of the surplus metal may be machined off as required, as indicated by the dotted line in Fig. 1.

To avoid unnecessary fitting on the engine-assembling floor, several varieties of the plugs, taking up more or less of the compression space, may be machined and used as found necessary. Probably a limit of one-half cubic inch less or more than the normal capacity would be permissible.

For testing, a simple fixture like Fig 2 will be found advantageous. This may consist of a flat plate *A*, on which is mounted a dummy piston *B* of such length that when the cylinder *C* to be tested is set down over it and on the plate the top of the piston is in the proper relation to the top of the cylinder for the end of the compression stroke. A carefully measured amount of liquid, corresponding to the cubical contents of the compression space desired, may then be poured in through a funnel screwed into the plug hole in the top of the cylinder, and the plug adjusted until the liquid just fills the compression space.

### SOME OF THE CAUSES OF RUST.

The rusting of iron is accelerated by the presence of copper, and retarded by such metals as tin, lead, zinc, manganese, aluminum or magnesium; the phenomena are to be attributed to the hydroxide of the metal, which dissolves in the water, for similar stimulating or paralyzing effects are produced on the iron by water which has been in contact with the metal, says *The Electro Chemist*. Arsenic and its compounds exercise a paralyzing effect on the rusting of iron, and when present in large quantities stop it altogether; in this case the dissolved iron hydroxide forms colloidal, ferrous, or ferric arsenite. Soluble salts such as the chlorides and sulphates of the alkali metals have a stimulating effect on the rusting of iron, probably due to their electrolytic dissociation, while among organic substances such compounds as sugar, phenol, or resorcinol stimulate the formation of rust; alcohol or methyl salicylate has a retarding effect, and acetic or salicylic acid dissolves the iron as rapidly as it is oxidized.

## THE CHAUFFEUR'S "BINGEN."

By E. A. BRININSTOOL



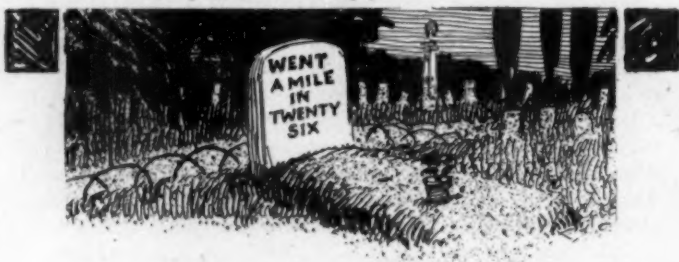
A speed-crazed automobilist lay groaning 'midst the wreck,  
There were wheels and spokes about him and a tire adorned his neck.  
A policeman stood beside him, while reporters, like a flash,  
Gathered 'round with ready pencils as he told about the crash.  
That nerry chauffeur faltered as he grasped that copper's hand,  
Murmuring: "Just how it happend I can never understand;  
Bear a message to my company and tell them of my fix,  
And don't forget to say I went a mile in twenty-six."

"Tell the house for whom I travel of the daisy run I made,  
That I kept the buzzer open and was not a bit afraid;  
That I made four laps a-whizzing, and would sure have won the cup  
If I hadn't had a puncture and the tire not blown up.  
And oh, be sure you tell them of the five or six I killed,  
Just before my tire exploded and I skidded and was spilled;  
And if they want my record just before I made the mix,  
'Tis here on my speedometer—a mile in twenty-six."

"Tell my mother though disfigured I am still within the ring;  
That I made the run a-flying like a bird upon the wing.  
For my father drove a trotter, and when I was but a child,  
I remember how he told me of his races fierce and wild.  
And when father died and left me I determined that my plan  
Would be to follow after and become a racing man.  
I have broken countless records—that was one of father's tricks,  
But my Waterloo has met me in this mile at twenty-six!"

"There's another—not a sister, but a pretty girl I know—  
Who advised me when I started that I'd better go it slow.  
And I thought about her caution when I crashed into this fence,  
And I reckon she will score me for my lack of common sense.  
Just say I couldn't help it, for I'm in the biz for cash,  
And I have to take some chances and expect a frequent smash.  
She may think that I am suited to be classed with lunatics,  
Even though I broke the record by a mile in twenty-six!"

His voice grew faint and hoarser and his grip was limp and weak;  
They poured some brandy down him, but he sighed and ceased to speak.  
The "cop" bent down to lift him, but he only gave one glance,  
Then telephoned the station to send out the ambulance.  
And the soft moon rose up slowly and in pity it looked down,  
As they dumped him in the wagon and then trotted back to town.  
And his ante-mortem statement, just before he crossed the Styx,  
Was: "Carve on my headstone simply:



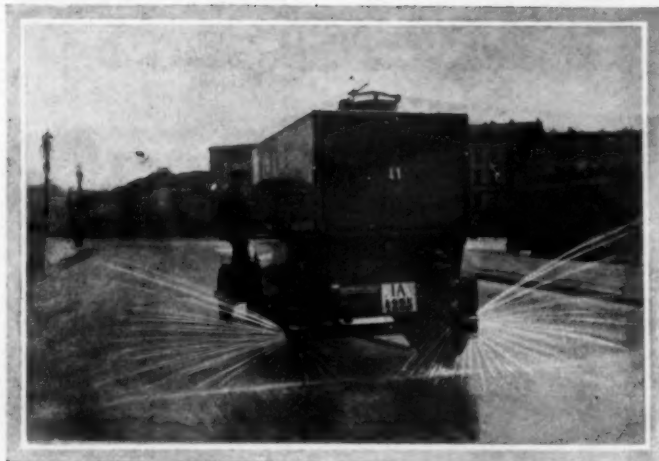
## BOOKS ON AUTOMOBILING.

**A European Romance of the Automobile.**—Collectively, it is the usual plot of a villainous foreign count, a pretty girl and a brave Englishman which has been wound round "The Lady of the Blue Motor." If the descriptions of foreign scenes fail to arouse any vivid recollection of Paris and London, and the liberties which the author takes with foreign proper names, sometimes exceed ordinary limits, there is, however, the satisfaction of following the unwinding of a fairly good plot. Why the author should persistently make his characters pronounce "Monsieur" as if they were faubourgien *voyous*, or why he should tamper with the title of the world-renowned Café de la Paix, is not easy to understand. Though G. Sidney Paternoster cannot claim to have produced a masterly sketch of European automobile and racing scenes—and there is abundant raw material available for the word artist capable of handling it—he has the lesser satisfaction of spinning around the Lady in the Blue Car a romance of sufficient interest to hold the attention of the reader to the end of the volume. The book is published by L. C. Page & Co., of Boston.

**A Handbook of Gas Engine Design.**—The small volume compiled by Sanford A. Moss, M.S., Ph.D., under the title "Elements of Gas Engine Design," gives in a condensed form all the fundamental principles with which the designer of gas engines should be familiar. No attempt is made to go into mathematical or constructional details. In the opening chapters is given a general outline of the physics and chemistry of the gas engine and a discussion of gas engine fuels, followed by a table giving the relative power yielded by various fuels in a given engine. Other chapters give a discussion of the action in a gas engine cylinder from the designer's point of view, methods of finding the size of cylinders for a given power, rational formulas for most parts of a gas engine, with constants derived from modern American practice. Most of the work deals with the four-cycle engine. The work is published by the D. Van Nostrand Company, New York.

**Homan's Work Brought Up to Date.**—In order to keep abreast of the rapid and constant changes in design and construction that are taking place in the automobile, it is absolutely necessary for any work on the subject to be revised from time to time, as it would otherwise very soon be entirely out of date and merely of interest from a historical point of view. This has been done in the case of *Self-Propelled Vehicles*, by J. E. Homans, and the publishers, Theo. Audel & Co., in announcing the fifth edition, state that it has been thoroughly revised and brought down to date by the addition of a considerable amount of text and illustrations covering the advances made since the appearance of the previous edition, thus making it the most complete work of its kind extant. It is a neatly-bound volume of 600 pages, profusely illustrated with drawings and halftones, and covers the automobile of every type from every conceivable point of view.

**New Road Maps for Travelers in Italy.**—Valuable work for the convenience of the automobilist and general tourist is being performed by the Italian Touring Club in the publication of a series of fifty-eight road maps of Italy and adjoining islands. The first four of these are already out, and the remainder will appear at intervals, 60,000 of each being printed, making a total of three million and a half copies. Notwithstanding the large number of tourists who annually travel through Italy by automobile, no reliable road map drawn to scale had previously existed. This series is therefore particularly welcome, for it gives all the information required by tourists, such as distances, grades, curves, crossings, monuments, and interesting viewpoints. The maps are printed in seven colors, with all the mountains clearly defined. The work being executed by the Geographical Institute De Agostini & Co., of Rome.



BERLIN'S STREETS NOW SPRINKLED A LA MOTOR.

**AUTOMOBILE FOR WATERING GERMAN CAPITAL.**

BERLIN, May 1.—A new type of automobile street sprinkler has been added to the street department of the Berlin municipality. The wagon is driven by a gasoline engine carried forward, and has a huge metal tank with two powerful sprinklers in the rear. The throw of water outwardly is calculated to water the full width of the average street at one passage. Being as rapid as the average street vehicle, the automobile water sprinkler does not obstruct traffic, as is done by the horse wagons. As will be seen from the illustration, the capacity of the tank is at least four times that of the old type of vehicle.

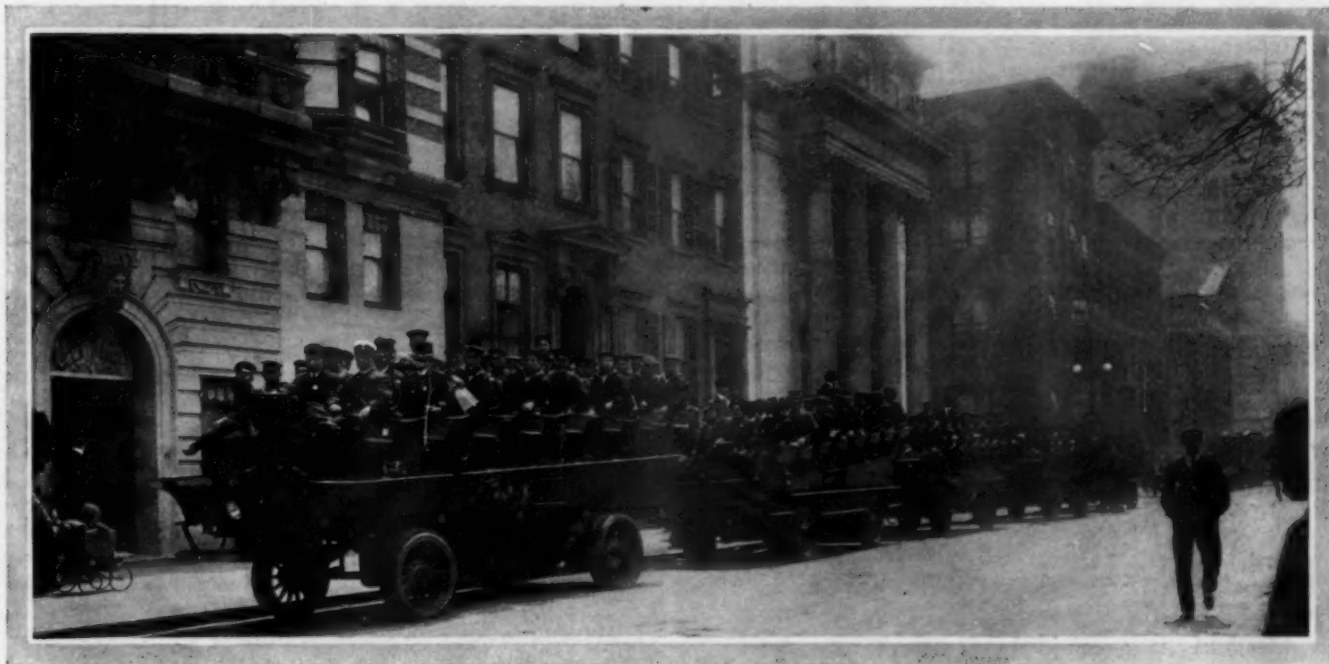
**MALAY PENINSULA\*AS A TOURING GROUND.**

Automobiling in the Malay Peninsula is far from being an unknown art, writes J. H. Robson, a medical practitioner of Kuala Lumpur, in the State of Selangor. Mr. Robson was the first medical man in the Peninsula to use an automobile as a means of getting backwards and forwards to his home and office. Among the many machines which he has used in the Peninsula are a Stevens-Duryea, a four-cylinder Ford, a Cadillac, a Maxwell, and an Oldsmobile, all of which have given good service.

Perak, Selangor, and Negri Sembilan, the three States on the west coast of the peninsula have excellent roads, flat on the coast and hilly in the interior. A very interesting visit could be made to the peninsula by visitors to the Far East, by landing at Pinang from any of the steamers from Colombo, Madras, Calcutta or Rangoon, and overstaying fourteen days for the next steamer for China. This would give sufficient time for a detailed visit of the peninsula and would allow the tourist to see something of the rubber estates and tin mines. There are fully furnished rest houses, with boy and cook in attendance, at all the places a traveler would care to stay at.

Landing at Pinang, a very interesting trip may be made right through the States as far as the old British territory of Malacca, to the south of Negri Sembilan. The trip could be spread over four days as follows: First day, Pinang to Taiping, capital of Perak; second day, Taiping to Ipoh (Perak), a tin mining center; third day, Ipoh to Kuala Lumpur (Selangor), the Federal capital; fourth day, Kuala Lumpur to Malacca. The distances average about one hundred miles a day. Steamers do not come alongside at Malacca, so that, except in the case of small light cars, it would be well to work back again from Malacca to the chief port of Selangor (Port Swettenham). If arriving at Singapore, it would be necessary to tranship into a local steamer for Port Swettenham, for there are no roads up north through Johor, the mainland opposite the island of Singapore. There are no custom duties on automobiles. Gasoline costs about 80 cents a gallon, 100 cents equalling 2s. 4d. English money. A tourist would probably not be asked to take out a license if he had papers with him. At Kuala Lumpur, the Federal capital, there is an automobile garage. About twenty miles from the town is a very famous sulphur spring and public baths. From K. Kubu, twenty miles north of Kuala Lumpur, there is a railroad to Raub, in Pahang, crossing the main ridge of mountains and ascending for twenty miles at a gradient of one in twenty. The road is narrow, with many sharp curves, but a public automobile passenger service is running over the route. There is a gold mine at Raub.

A uniform automobile law applies to the four States of the Federation, and is largely based on the automobile regulations in use in England. There is, however, no speed limit, the rules stating that no automobile shall be driven at a greater speed than is reasonable or proper, having regard to other traffic on the thoroughfare. As in England, vehicles keep to the left-hand side of the road and pass to the right.



FIGHTING JAP SAILORS FROM THE WARSHIPS OF THE EMPIRE OF RISING SUN SEEING NEW YORK ON THE "RUBBER-NECK" AUTOS.

## DARRACQ OFFICIALLY ABANDONS RACING

PARIS, May 21.—There has been a violent thunderstorm in French automobile circles, without any more serious results than usually accompany a summer disturbance. Wagner's departure from the Darracq factory to form one of the Fiat team in all the important European racing events this season was the primary cause of the trouble. Probably all would have passed off with a harmless rumble had not Smith Winby, the president of A. Darracq, Limited, written a letter to M. Darracq, in which he voiced his indignation at the news that the Fiat firm had seduced Wagner, their best driver, on the eve of important races in which their cars were to compete. According to Mr. Winby, the action of the Fiat company was so disloyal, and revealed an intention to conquer by every possible means, good or bad, legitimate or illegitimate, that only one course remained open, namely to withdraw all Darracq racing cars from every event in which they are engaged.

The move was of such an astounding nature, and so contrary to the general principle of the Darracq firm, the creator of racing, first in cycling, later in automobilism, that the public refused to believe it until M. Darracq himself gave confirmation in an interview with press representatives. "Wagner, our first conductor, the winner of the Vanderbilt Cup, in which he defeated all three Fiat machines, has been stolen from us by the Fiat firm, only a month from the German Emperor's Cup race, in which event he will be used against our team," declared the French constructor. "We can easily obtain other drivers, if not for the German event, at any rate for the later races, but I must protest against the spiriting away of our men on the eve of a race. If this is to continue, we shall see our drivers bribed over to a rival firm on the very morning of a race. For this reason we have decided not to race at all this season. Our cars will be offered for sale, and whoever likes to buy them will have the right to run them in the events for which they are already engaged, at their own risks."

A reply was immediately forthcoming from the Fiat firm, signed by Chief Engineer Marchesi, in which he declared that no attempt had been made to seduce Wagner. The Italian declared that Wagner had offered his services, and that there was no special monetary attraction, the salary paid him being that given to all their drivers. Wagner's proposition was accepted on May 1 because a few days previously Dr. Aldo Weillschott had announced his intention of no longer taking part in races.

### Neglect of Signed Agreement Caused Darracq-Fiat Dispute.

It should be pointed out that the Darracq company is entirely to blame for any loss it may have incurred. Apart from the contract usually uniting a driver to an automobile firm for one or more seasons, and which would prevent such an occurrence as this, the rules of the Grand Prix stipulate that a written agreement should be drawn up between constructor and driver as soon after the engagement of the car as possible, and lodged with the Sporting Commission. Although it was understood that Wagner should drive for Darracq, no formal agreement had been lodged with the club, and he was consequently free to offer his services to any rival firm or to accept any offers.

Officially the Automobile Club of France and the German Club ignore the decision of the Darracq company. Three machines are entered for the Grand Prix, two for the Sporting Commission Cup, and three for the German Emperor's Cup race, entrance fees totalling 6,650.

Fortunately the Darracq machines will not be absent from this year's races. Hanriot, who entered the Darracq employ last year, has bought his Grand Prix racer, and will drive it in that event on his own behalf. Gustave Caillois, who had been engaged to drive for Darracq this year, and who was to have been entrusted

with a Sporting Commission racer, will very probably buy Wagner's machine and drive it in the Grand Prix, and the third, which should have been in charge of Demogeot, will doubtless go to Lee Guinness, the English brewer, owner of the eight-cylinder Darracq racer. Nothing is yet decided regarding the two Sporting Commission racers and the German Emperor's Cup racers, but it is certain that they will figure in the events for which they are already entered.

### Wagner Explains and Protests.

PARIS, May 22.—Additional light on the Darracq-Fiat dispute is obtained by a letter from Wagner. The Vanderbilt Cup champion declares that he signed a contract as racing driver with M. Darracq on July 1, 1905, at a salary of \$60 a month, with a stipulation that the engagement could only be cancelled on either side by payment of \$2,000 indemnity. "April 27," says Wagner, "the Darracq firm proposed that I should sign an engagement to drive in the Grand Prix. I refused, for since my return from Sicily I had decided to leave them, and had already entered into negotiations with Fiat. On May 1 I told M. Darracq that I should leave his service, and immediately handed over the indemnity of \$2,000, as stipulated, this being a larger amount than I had earned in his service in two years. I have not compromised the firm's interests by leaving a month before the German Emperor's race, for at the time of my departure the car was not complete and I know nothing concerning its construction.

"On this occasion my reputation as a driver has been attacked by insinuations regarding the regularity of my stop in the Targa Florio. I was not able to finish because my machine broke down on the third round, while I was leading, as the result of a broken road wheel bearing. Hanriot had to stop for the same reason. I cannot allow it to be said that I have betrayed the firm, and I protest against calumnies calculated to injure my career as a driver. I shall ask the Sporting Commission of the A. C. F. to make an inquiry into my case and verify if it is not absolutely correct that I abandoned the race as the result of a mechanical defect."

### CHRISTIE TAKES EARLY MORNING EXERCISE.

Since his first try-out on the Jericho turnpike, Walter Christie has made a few changes in his Grand Prix racer, and is now practising daily on a quiet stretch of road on Lang Island. By special permission he has the exclusive use of a four-mile highway every morning from 4 to 6 o'clock. The machine shows remarkable speed, and Christie is confident of securing a good position in the French race. Experiments are just about to be made to determine exactly the fuel consumption, the Grand Prix, as is well known, being run on a limited supply of gasoline.

### FOURNIER RETURNS TO RACING GAME.

PARIS, May 21.—Unable to resist the fascination of racing, Henry Fournier, the victor of Paris-Bordeaux and Paris-Berlin, announced that he will pilot an Itala car in the German Emperor's Cup race on June 14. Fournier abandoned the racing game some years ago, after winning numerous events, introducing the first De Dion motorcycle into the United States in 1896, and later establishing a mile record in the neighborhood of New York. Of late years he has managed the Paris-Automobile garage in the Rue d'Anjou, one of the most important of Parisian swell garages, and certainly the one most frequented by American visitors. Before taking up the Itala agency Fournier did good business as the exclusive Paris agent for Oldsmobile runabouts.

## PLEASURES OF AN AUTOMOBILE CAMP

By A. S. ATKINSON.

**T** IRED of the regulation vacation of a few weeks at seashore or mountain hotel, we decided last year to follow the gypsy plan and establish ourselves in an automobile camp. My wife demurred at first, as wives sometimes do when convention is to be trampled under foot, but two youthful chips of the old block cast the deciding votes.

"We'll go, and if mother wants to go to the hotel——"

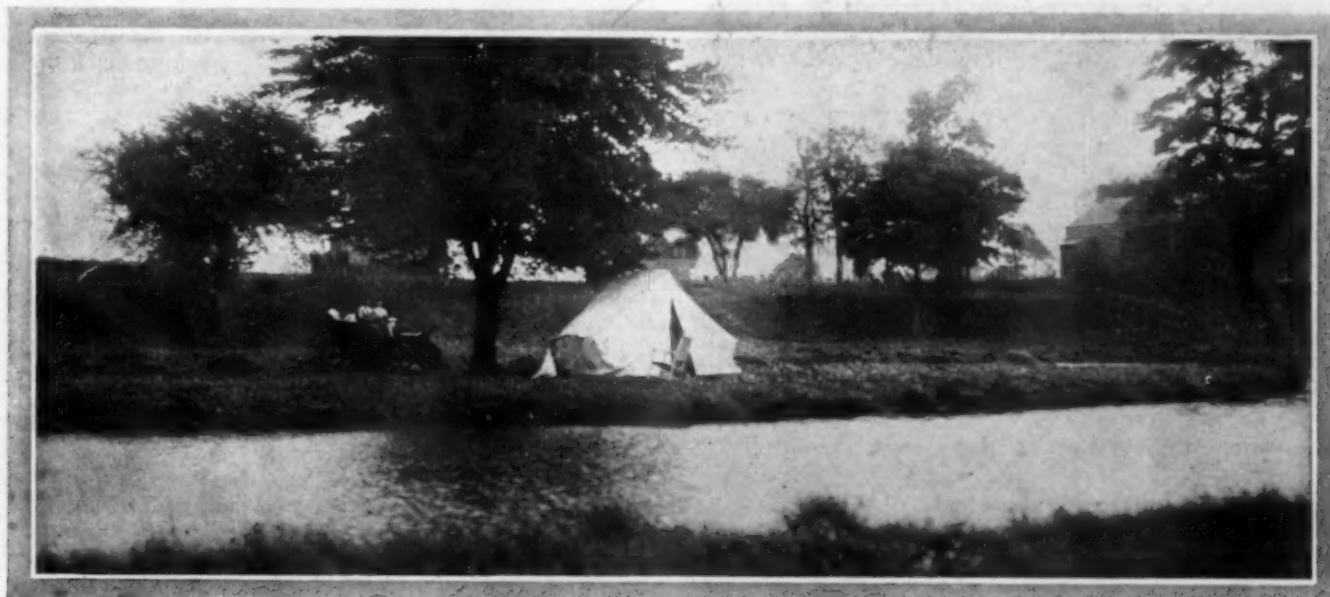
But mother didn't want to be separated at vacation time from her brood. So she fell in with our plans and willingly assisted in the preparations. There were no particular plans. In fact, everything was rather indefinite so far as the route was concerned. We were simply to follow the life of the gypsies, substituting the motor car for the regulation gypsy wagon. We had no particular destination in mind, and we intended to live on the road for a few weeks either in camp or in riding.

"We'll be real gypsies, won't we, dad?" queried the youngest

phernalia showed us jointed poles which could be taken apart and stowed away in a three-foot space our difficulty was solved.

But a camp needs other things besides a shelter from dews of night. There was bedding to be provided, cooking utensils, and similar household equipments. The boys compromised on two hammocks—said they preferred hammocks to cots, and all Indians slept in hammocks slung from trees. I didn't know, and yielded to their wishes, but for myself I wanted a cot. The two hammocks were folded up and stowed away under one of the seats. Two cots and mattresses fitted snugly on top of the car with the tent, and, when neatly tied down, with blankets and linen, they were not very noticeable. Over all we stretched a waterproof blanket to protect the bedding from rain and dust.

The next problem was to find a place for the cooking utensils. My wife said we had to have a frying pan, a cooking pot and kettle, a broiler, tin pans, cups, saucers, plates, knives, forks,



ONE OF THE CHARMING CAMPING SPOTS WITH WHICH NORTHERN NEW JERSEY ABOUNDS.

of the boys. "Real gypsies are those who live in wagons and tents, and go about from place to place, ain't they?"

"We can't trade horses and tell fortunes, and gypsies all do that," replied the elder brother, scornfully.

But we did about everything that gypsies do that summer except trade horses and tell fortunes. Our auto was a good type of the touring machine, with seats for five, and amply supplied with lockers, hampers and ice-chest. It was made for long-distance touring, and when fully equipped we could cut loose from civilization for a considerable period of time without suffering any hardships.

But there were other things that we required besides the ordinary equipments for a regulation tour. The boys wanted to camp by the roadside—no hotel for them. They ruled the day, and we finally purchased for \$50 a tent large enough to accommodate four comfortably, with an additional wing for cooking in rainy weather. This tent, when rolled up, took considerable space on top of the car, but when folded neatly it could be concealed from view very well. The poles for the tent were the part of the freight which caused some discussion. I did not care to advertise our intention by sticking eight-foot poles from behind the body or top of the car. But when the dealer in camping para-

spoons, and two dozen other articles. After much arguing the number was cut down one-half. She proved a good buyer, for she understood the economy of space as well as the economy of expenditures. She bought pans which fitted snugly into each other, and a kettle which neatly held all the cups and saucers. The plates just filled the bowl of the frying pan, and the knives, forks and spoons made the coffee pot full to the brim. When through with this sort of packing we had only five articles to stow away in the car. We decided to use the body of the car for these ungainly, but very essential, articles and the extra seat for our coats and wraps.

Then the hamper and ice-chest were filled. A small portable gasoline stove fitted snugly under one of the seats. A few dry groceries, such as tea, coffee, sugar, salt and pepper were kept in one of the seat lockers. We decided to do our marketing for the more bulky food as we moved along.

When we crossed the ferry for the shores of Jersey, we felt like an itinerant peddler ready to go on the road with a load of tinware to exchange for old rags and bottles. I listened to every jar, expecting to hear the tinware rattle and give us away. But I gained reassurance when I noticed that no one displayed any special interest in our outfit. Indeed, we did not look over-

loaded or much different from any of the other automobiles with us on the ferry boat.

We were filled with no vague forebodings after we struck the country road. Once away from the city, we bowled along happily, and spent the forenoon in enjoying the fine air and delightful scenery of the fresh fields and hills. We stopped at one of the small towns and purchased supplies for our first dinner. Then we scurried along to find a secluded place for the first camp.

In the hills of northern New Jersey there are many ideal spots adapted to such temporary camps. We found one late in the afternoon on the edge of a pretty little lake, with a stretch of woods back of it. Here, hidden away from all passers, we stopped, and the boys busied themselves in putting up the tent. I collected a few leaves and boughs for reclining seats, while my wife started the gasoline stove and prepared the supper.

Within an hour after we stopped the tent was up, beds made, hammocks swung, and supper ready. Hungry? We were literally starved, and food never tasted better. We ate so much that my wife looked anxiously at the remains, and remarked:



WHERE THE YOUTHFUL ANGLERS CAUGHT THE FISH.

"At this rate it will cost us nearly as much as if we put up at a first-class hotel."

"But the boys enjoy it, and they will gain a pound a day if they eat like this."

We had some nervous misgivings, my wife and I, during that first night in the tent. But the boys slept like tops, and in the morning they said their hammocks were the best beds they'd ever slept on. No strangers or prowling beasts disturbed our slumbers, but a few buzzing mosquitoes did trouble us. The next night we fortified ourselves against these pests by netting all the openings to the tent.

In the morning the boys plunged into the lake and had a bath that made them fit for any troubles and difficulties that might arise. Breakfast was prepared more leisurely than supper. There was no hurry, and the sun was hours high in the sky before the dishes were washed.

"Where shall we motor to-day?" I asked them.

"Why, I thought we were to play gypsies," replied the boys in a breath. "Gypsies don't move every day. They camp out, and then go on when they're tired of the old place."

"Want to stay here longer?"

"Yes, for I think there's good fishing in this lake."

So we decided to spend another night in the camp. The boys went fishing, and in the afternoon my wife and I motored to town to buy more of the necessities of life. We brought back so many that we were dismayed at their bulky appearance. We were really provisioned for several days. The boys had a fine mess of fish for us, and this added to our stores. They had already cleaned enough for supper, and fresh pickerel never tasted better than those which the boys prepared for us.

We lingered three days and nights at the edge of the lake. The boys were interested in the fishing and in exploring the woods. My wife and I took side trips, and spent the rest of our time idly reading and sleeping in hammocks stretched under the trees. Our camp was so secluded that we were not annoyed by any visitors, and when we finally decided to move on we actually felt a sense of disappointment.

We got an early start and covered a hundred miles before night, passing through picturesque, hilly regions and picking up our midday meal from a farmhouse, where fresh milk, eggs and fruits could be obtained in abundance. When night began to approach we found ourselves in a low, flat country, and there seemed no desirable camping place. Finally, in desperation, we struck camp near the roadside in a deserted field. That night our slumbers were disturbed by the croaking of frogs and the hum of hosts of insects. When morning dawned no one made a request to stay longer than necessary. We passed on gladly and made good progress toward more promising scenery.

We crossed Jersey and entered Pennsylvania. The country grew hilly and rougher, and the roads made our progress slower. At times we got lost and had to retrace our steps. But that did not annoy us. We had no objective point, and it all had its amusing side. We struck a small hill town and purchased more goods, and filled our supply tanks with fuel. We made inquiries about the mountain roads, and finally learned that we could strike an ideal camping place, thirty miles beyond, which would give us a beautiful view of three States—Pennsylvania, New Jersey and New York.

Fortune smiled upon us, and we pitched camp in an ideal nook under great spreading oak trees, with green moss for carpet, and a view from our front door that made the heart jump with pleasure. A trickling spring of water a dozen yards away made us feel at home. I knew that we were to stay there for some time, and so unpacked some of my books and papers. My wife was charmed with the view and insisted upon doing some painting. The boys wanted to play Indians and climb some of the neighboring hills and cliffs. I yielded to their wishes, and our camp became an abiding place for nearly a week. I suggested that we were not making the most of our opportunities for motoring, but I was silenced by my wife's remark:

"What's the use of making ourselves a slave to the automobile. We're here to enjoy ourselves."

Our wanderings that month were but a repetition of these few experiences. When we found a camp that particularly appealed to us we stayed until we had exhausted its pleasures, and if we camped in an uncongenial place we left it early the following morning. There were no restrictions to our going or staying.

It was this idle, unconventional life which made the whole vacation a series of pleasant impressions. Each member of the family dropped easily into the free life of the movable camp, and no grumblings came from any lips. The only protests were made when it was decided to head about and return home.

"What, so soon!" exclaimed the boys, who now looked more like two wild Indian lads than school boys.

Only business could break short such an ideal vacation. I yielded a little to their wishes by returning in a roundabout way, so that the trip was prolonged another week. Then we slowly trundled homeward, brown as berries, and so outrageously strong and healthy that we wondered what we would do to find an outlet for our animal spirits in the city.

As to the cost of the trip, I can only refer to my wife's remarks. She was the custodian of the funds, and kept the only accounts of expenses.

"Why, it has cost us a ridiculously small sum. It would have cost us twice as much if we had gone to a hotel for the summer, and the boys have lived in their old clothes. I haven't needed anything new, and what we've saved will fit me out with two new gowns, and there'll be something left for that pair of new lamps for you. And the boys were never so healthy! Look at them!"

I looked, and agreed with her. That fall I had my new lamps, and my wife had her gowns.

## CLUBS PREPARING FOR THE SUMMER SEASON

### Grand Rapids Club Has Tripled Its Membership.

GRAND RAPIDS, MICH., May 25.—If the Glidden tour doesn't come by way of Grand Rapids, local autoists will meet it in Chicago. They are now planning a tour to Milwaukee by boat from Grand Haven, thence by the Sheridan road to Chicago, to be at the latter place on the date set for the arrival of the tour. Probably 100 members of the club will make the trip.

The new country clubhouse at Cascade is to be open Decoration Day. The clubhouse has undergone extensive repairs to be put in readiness, and a manager has been engaged for the season.

The local club is keeping up its activity in fostering the State organization which has lately been formed. Among the tours that are planned for the summer are one to Kalamazoo and one to Muskegon, when special efforts are to be made to get those clubs into the organization. The club has made itself popular with the public by its stand on reckless driving. At its last regular meeting it appointed a committee to co-operate with the police department in its efforts to stop reckless driving, and the committee was instructed to draw up and have printed a set of rules for driving in the city streets. Everything possible is to be done also to discourage the driving of cars by children, which has been the cause of a number of accidents this season. Twenty new members were admitted to the club at its last meeting, making the total now 175. At the beginning of the season the list of members contained only 58 names.

### More Cars Needed for Orphans' Day Parade.

NEW YORK, May 27.—It has been decided that the route for the Orphans' Day parade, to be held on June 12 next, will be from Seventy-second street, at or near Broadway, down the latter to the Brooklyn bridge, and from the other end of the bridge to the Ocean parkway, passing through Prospect Park en route, and ending up at Coney Island, where all the joys of Dreamland will be thrown open gratis to the children. Police Commissioner Bingham has offered the services of a number of mounted men in relays to convoy the parade, and it is probable that he may attend himself, using the big car that he has employed in testing the motorcycle policemen. It is understood that a well-known merchant has offered to supply luncheon to the party. Though a large number of cars have been offered, Chairman S. A. Miles, of the committee of the New York Motor Club, having the affair in charge, states that at least 100 more cars are needed to accommodate all the children from the institutions that have signified their intention of participating. Offers of cars should be sent to S. A. Miles, chairman, 7 East Forty-second street, New York City.

### Long Island A. C. Will Locate Village Boundaries.

BROOKLYN, May 27.—Charles Jerome Edwards, chairman of the touring committee of the Long Island Automobile Club, has addressed letters to the presidents and boards of trustees of the different villages of Long Island, asking them to send an official statement of the boundary lines of their village corporations, as related to the main traveled highways, and if they are properly marked by warning signs. In connection with his letter, Chairman Edwards takes occasion to state that the Long Island club does not countenance excessive speeding of automobiles, or the violation of speed regulations, and has no sympathy for the persistent violator who drives his car at a 30 to 50-mile gait on the highways. On the other hand, it is the club's wish to protect, as far as possible, the careful driver, who may innocently exceed the legal speed, and pass into village boundaries without the knowledge of having done so. Mr. Edwards presumes that all of the villages have erected proper signs marking the boundary limits, but states that it is the wish of the club to erect such signs on its own behalf where they are missing.

### Worcester Club Will Increase Membership Limit.

WORCESTER, MASS., May 27.—The Worcester Automobile Club will have its monthly meeting June 4. Plans are being made to have a change in the constitution and by-laws relative to the membership limits. At present the active membership limit is 250, and with the present list and the prospects which are in sight for active members there will have to be a change in the limit or there will be a waiting list of actives.

Members of the club and autoists in and out of the club all through Worcester county and city are to be invited to assist with their presence and cars in a parade June 20 in connection with the Old Home carnival which Worcester Merchants' Association will have June 17, 18, 19 and 20.

Word received at the Worcester clubrooms to-day was to the effect that Worcester will be one of the cities in Massachusetts where examinations and tests will be made under the legislative act which was signed by Governor Guild yesterday providing for a more rigid examination as a prerequisite for a chauffeur's license. This will do away with the present practice of making application for the licenses by mail.

Owners and chauffeurs both express themselves as satisfied to have a more rigid examination for the drivers of cars. Instances of cases where accidents have been caused by ignorance of the cars and their mechanism by their drivers were told by the owners, and the general sentiment was fairly expressed by President A. E. Bliss, of the Malden club, who was a caller at the clubrooms to-day, when he said there should be an issue of licenses similar to the licenses which are issued to engineers of stationary engines. These are on the basis of special licenses which permit the holders to run certain engines, and no others, and from that up through engines of different powers to the first-class license which allows the holder to run any kind of an engine.

President John P. Coghlin, of the Worcester club, is doing his short trips around the city in a new Studebaker electric runabout, and is leaving his big Aerocar for the longer trips.

### CLUB DOINGS IN GENERAL.

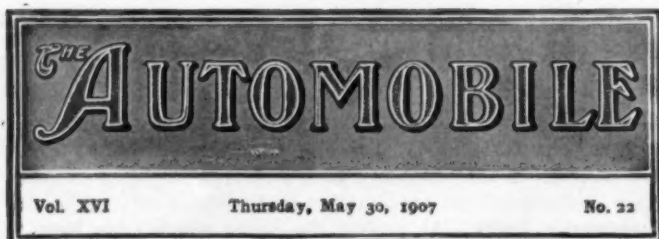
**Montclair, N. J.**—The Montclair Riding, Driving and Automobile Club was organized recently. L. L. Chinn was elected secretary *pro tem.*, and other officers will be named at a later meeting.

**Berkeley, Cal.**—An automobile club has been born here. One of its main objects in life will be to obtain good roads and to assist the city superintendent of streets in keeping the thoroughfares in a worthy condition.

**Chicago.**—Mrs. E. V. Johnson has succeeded Mrs. C. H. Foster as president of the Chicago Women's Motor Club. Other officers are: Mrs. A. F. Chase, vice-president; Mrs. N. J. Boardman, secretary; Miss Anna M. Andrews, treasurer.

**Davenport, Ia.**—Good roads, reasonable legislation, a State association and some attention to social matters have been decided upon by the Davenport Automobile Club as lines of immediate conduct. It was also resolved to endeavor to obtain the services of Barney Oldfield at a race exhibition in August.

**Omaha, Neb.**—At the recent annual meeting of the Omaha Automobile Club a number of schemes were discussed for future activities. Good roads were decided upon as the most profitable field, and every effort will be made to improve the streets of the city. Present officers of the club are: Dr. F. N. Conner, president; Gould Dietz and Louis C. Nash, vice-presidents; Lee McShane, secretary, and Emile Brandels, treasurer.



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**Is It Possible to Eliminate the Change Speed Gear?** This is a question that has been asked ever since the internal combustion motor was first adopted as a prime mover for road vehicles and there appears to be very little doubt that it will continue as a thorn in the side of the automobile engineer for a long while to come. For very obvious reasons it is one of those questions that simply will not down. Much has been done, it is true, but, in a certain sense, what has been accomplished has actually tended to leave matters further from the realization of this ideal than was the case at the outset. The necessities of the situation have been appreciated and a practical change speed gear developed from extremely crude beginnings; during the same period the motor itself has undergone a marvelous amount of improvement, but this has stopped far short of the culmination desired, and its shortcoming still looms up as large as ever.

There are occasional sporadic outbreaks on the part of the publicity man in organizing direct drive "stunts" to show the automobiling world in general that the change speed gear is no longer an absolute necessity on such a paragon of all the automobile virtues as he lauds—it is merely an emergency reserve and a friend in need for the inexperienced driver. But the manufacturer he represents and the majority of others still continue to put a four speed gear-set on their cars where formerly three were considered sufficient. Such performances as those referred to show what can be done by a skillful driver with a clear road, but forcing a motor of the present type until it is ready to gasp its last will not benefit it nor bring the sought-for result any nearer.

Cylinder multiplication has appeared to offer a quasi remedy for the evil, and so far as the use of the six and the eight-cylinder

motor has made it possible to do a much greater proportion of the driving on the high-gear, it may be said to have accomplished the object in view, but considered as a whole the problem remains practically unaltered. It is quite evident that the ability to start under load is an eradicable defect of any internal combustion motor of whatever type, and viewed at the present stage of development, it appears very likely that the need of an intermediate step between the motor and its load, constitutes a shortcoming that falls in the same category, in any such exacting and variable service as that called for by the automobile.



### The Overgrowth of an Interesting Principle.

"Shall we soon be running about the country on two-wheeled motor cars?" asks an English contemporary with all due seriousness, referring editorially to an invention involving the use of the gyroscopic principle to maintain a two-wheeled vehicle upright, which has been much exploited in the over-seas automobile press recently. "That such vehicles are possible has been proved," it goes on to say. "By means of two gyroscopes placed side by side, and revolving in different directions at enormous speed, the balance is maintained. The gyroscopes work on ball bearings in vacuo, and require little power to operate them."

Since the time when the gyroscope first saw the light in 1832, its possibilities as the basis of a wonder-working discovery have appealed very powerfully to the inventor. In practically the form that it has been known during the interim, it was originally invented as an educational device to demonstrate the principles of rotation, and the only other practical use to which it has been put beside this is in the gyroscopic top—familiar to the majority of schoolboys. Its applicability to the matter of rail transportation is something that falls outside of our province, though even in this field we seriously doubt if it will meet with any greater degree of success than would appear to be in store for it in connection with the automobile. To quote again: "If the new vehicle proves a success, there is no reason why we should not have motor cars with two wheels placed bicycle fashion."

There were those who ridiculed the idea of a man balancing himself on two wheels. That was a mere matter of trying and only the wheels were required; it does not require an engineer to realize that there are several "disturbing factors" in this new proposal. That it is possible, goes without saying, but the history of mono-rail schemes has been discouraging, particularly where they contemplated the balancing of a vehicle at high speeds. We already have plenty of two-wheeled motor vehicles in this country, but we doubt very much if we shall ever see any of the type our English contemporary so optimistically depicts.



### Recognition of the Automobile by the Engineer.

For the first few years of its existence the automobile was a source of much comment, supposedly humorous, by the engineering profession, barring those particular engineers who were engaged in its construction, though no one within the charmed pale would ever admit that technical skill entered into the design or construction of an automobile in the early days. Then the profession began to think that probably there was something of merit in the alleged amateurism after all—at least, the success achieved compelled its own change of opinion. The culmination has come within the past year or two, for now the engineer engaged in other lines casts an envious eye on the automobile and hopes for the time when he will be able to specify "jewelry" steel for some of his constructions, such is the respect engendered by the great progress in steel making brought about by the automobile.

Probably the general change of opinion is best reflected in the fact that the American Society of Mechanical Engineers now deems the subject of automobile engineering of sufficient importance to devote an entire session of its semi-annual meeting to the consideration of some details of construction, on which papers prepared by well-known engineers were read.

**A. S. M. E. HOLDS AN "AUTOMOBILE SYMPOSIUM."**

INDIANAPOLIS, IND., May 29.—At its semi-annual meeting which is being held here this week, the American Society of Mechanical Engineers has devoted an entire session to the reading of papers on automobile construction. The meeting is a four-day affair and began yesterday with formal exercises in the auditorium of the Claypool Hotel, Prof. F. R. Hutton, of Columbia, making the opening address. This afternoon the engineers and their friends went in a body to make a round of inspection of the plants of the National Motor Vehicle Company and the Nordyke & Marmion Company. At this evening's session the following papers on different features of automobile construction were read, some of them, notably that by Mr. Hess, being profusely illustrated with lantern slides. "Air-cooling of Automobile Motors," by John Wilkinson, of the H. H. Franklin Manufacturing Company; "Bearings and Moving Mechanism," by Henry Hess, of the Hess-Bright Manufacturing Company; "Materials for Automobiles," by Edwood Haynes of the Haynes Automobile Company; "Special Automobile Steels," by Thomas J. Fay, and a paper on the "Railway Motor Car" by B. D. Gray. The automobile session filled the big auditorium of the hotel to overflowing and the papers aroused a great deal of interest. A large part of the remaining session is to be devoted to papers on superheated steam practice, including such phases of the subject as its use on American locomotives, its action in an injector, performance of superheaters and the determination of entropy lines.

**SEARCHMONT CASE AGAINST A. L. A. M. DISMISSED.**

On the ground that the plaintiffs had failed to establish a cause of action, the suit brought by the trustees in bankruptcy of the defunct Searchmont Automobile Company, against the Association of Licensed Automobile Manufacturers, was dismissed by Justice O'Gorman last week, sitting in Special Term, Part VI., of the Supreme Court, in New York City. In its ruling, the court states that, to all intents and purposes, the association is a co-partnership and subject to all the laws governing this relation—a decision that is hailed with considerable satisfaction by the plaintiffs, in that it definitely establishes the status of the defendant. However, as the latter complied with all the rules of the association in declaring the Searchmont Automobile Company no longer a member, the latter's rights were thereby forfeited, and cannot be revived. There is considerable interest in the decision on the part of the members of the American Motor Car Manufacturers' Association, as should the Selden patent not be upheld, and actions for damages be instituted against the licensed association, each of the latter's members, it is claimed, could be held separately liable.

**PLANS FOR INDEPENDENT SHOW IN PALACE.**

At a special meeting last week between the representatives of the American Motor Car Manufacturers Association and the Automobile Club of America, definite plans were agreed upon for the latter's eighth annual show to be held in the Grand Central Palace at Lexington avenue and Forty-third street. This is the extent of the information, however, as no details whatever have been made public as yet other than the fact that the Aero Club exhibit will also be a feature as at the past three shows.

**NO CAR FOR THE NEW JERSEY COMMISSIONER.**

TRENTON, N. J., May 24.—Governor Edward C. Stokes of New Jersey has vetoed the automobile appropriation bill, which gave \$4,500 to Commissioner J. B. R. Smith for the purchase of an automobile for his department. The Commissioner had the machine in this city and was operating the same in enforcement of the Frelinghuysen law. The car will now be returned to the manufacturers and a proposition is afoot to purchase motorcycles for the use of the Automobile Department.

**TAXIMETERS HAVE NOW REACHED NEW YORK**

New Yorkers will make their first acquaintance with the taximeter, the European instrument for measuring distance and recording the legal fare to be paid, on the morning of June 1, on the familiar electric automobiles owned by the New York Transportation Company. With the news that all causes for dispute between cabby and fare are to be removed comes the official announcement that the company will put fifty French gasoline taximeter cabs into service within ninety days. As to the nature of the vehicles the Transportation Company is mum; we are told to wait and see what we shall see.

It is only after a number of experiments that the Cosmos taximeter has been selected as the most suitable for New York condition. It is of German manufacture, and is mechanically very similar to all the instruments of this nature in use in Paris and London. A metal box with a large glass face, with openings on which appear the tariff, fare to be paid and extras, internal clockwork, and a flexible cable communicating with one of the road wheels, constitute the make-up of the apparatus.



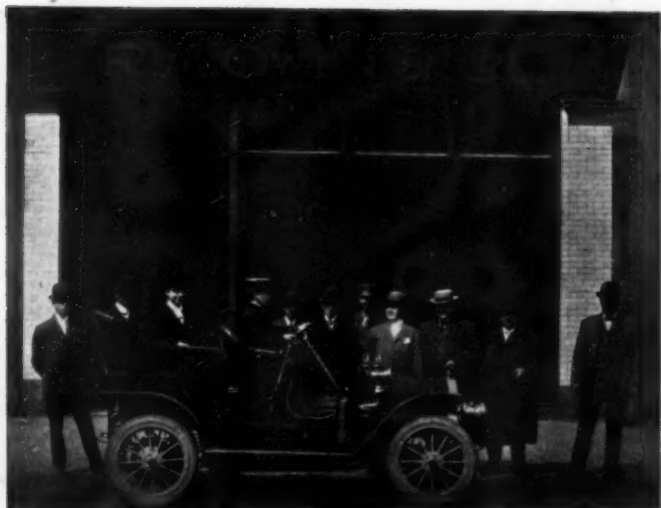
"DISENGAGED" AND "ENGAGED" VIEWS OF TAXIMETER.

When a cab is hailed the driver lowers his metal flag surmounting the instrument, and causes either tariff 1 or tariff 2 to appear. The action of lowering the flag registers 50 cents on the payment opening, this being the minimum fare. At the end of the first mile the figures advance to 60 cents, and continue to advance at the rate of 10 cents per one-fifth mile. Should the cab be kept standing after being engaged, the instrument, by means of the internal clockwork, registers 10 cents for every six minutes. Tariff 1 is used when one or two passengers are carried. Tariff 2 is for more than two passengers. Under the higher tariff the rate of pay is 10 cents per one-tenth mile.

Extras are charged when a cab is called from the company's headquarters to any given address, the rate being 20 cents a mile. This is registered by the driver turning a small handle at the rear of the apparatus. In addition to informing the passenger how much he owes the cabman, the taximeter records, by means of a number of totalizers at the rear of the apparatus, the number of individual fares, individual amounts and total amounts earned, and total distance traveled by the vehicle. Thus not only is any dishonest dealing between driver and traveler an impossibility, but the company has a complete control.

Obviously the instrument is hermetically sealed and cannot be tampered with in any way. Excepting that the driver has to wind up the clock once a day, the apparatus is entirely automatic. On the hansom cabs the taximeter is placed near to the driver's right hand, the face being visible to passengers.

Judging from European experience, the initiative of the New York Transportation Company will be rapidly followed by existing rival cab companies, and the numerous automobile cab concerns at present in a nebulous state.



A YOUNGSTER WHO DRIVES HIS FATHER'S CAR.

Warren Willey, of Earlville, Ill., eleven years old, starting on his recent trip from Chicago to Fremont, Neb., in a two-cylinder Reo touring car. Although he can scarcely reach the pedals in sitting on the regular seat, he drove his father's Reo car during all of last season.

#### THOMAS DETROIT CO. TO ERECT NEW PLANT.

DETROIT, MICH., May 26.—Another great automobile plant is to be built in Detroit. The E. R. Thomas Detroit Company has announced the purchase of twelve acres of ground on the south side of Jefferson avenue, adjoining the new belt line, as a site for a new factory. All the preliminary arrangements have been worked out quietly, and the formal announcement was deferred until the first anniversary of the organization of the company. The E. R. Thomas Detroit Company began business a year ago, and during that time has marketed 500 cars. The new site for the company is four miles from its present location. The buildings will be constructed entirely of reinforced concrete.

The officials of the E. R. Thomas Detroit Company are: E. R. Thomas, of Buffalo, president; H. E. Coffin, first vice-president; R. D. Chapin, treasurer and general manager; J. J. Brady, second vice-president; F. O. Bezner, secretary.

Contracts for the new buildings have been let, and the factory will be occupied September 1. The cost of the plant, fully equipped, will be \$250,000. The old plant will be used temporarily as a storage place for stock.

#### H. S. HOUP TO HAVE QUAKER BRANCH.

PHILADELPHIA, May 27.—There was a brace of mild sensations in local automobile trade circles last week. The first of them was the announcement of the Harry S. Houpt Company, of New York, that it would about June 1 open a salesroom at 139-141 South Broad street, a stone's throw from the Union League and the Bellevue-Stratford Hotel. Andrew S. Robinson, a former Philadelphian, and later connected with the company's New York establishment, will be in charge. The entire Thomas line will be handled. The selection of the South Broad street location is looked upon as a master stroke.

The second sensation was the closing of a deal whereby the Keystone Motor Car Company, local Packard and Buick agents, will handle the Corbin car here.

#### THE WELCH COMPANY JOINS A. M. C. M. A.

With the admission of the Welch Motor Car Company, of Pontiac, Mich., to the ranks of the American Motor Car Manufacturers' Association, the membership list of the latter organization now boasts a total of forty-three automobile manufacturers. The latest entrant was long identified with the manufacture of gas engines before taking up the making of automobiles.

#### NEW COMPANY ORGANIZED AT JACKSON, MICH.

JACKSON, MICH., May 12. Jackson capitalists have organized the C. V. I. Motor Company, and will put a high-grade six-cylinder automobile on the market. The incorporators are W. S. Kessler, president of the Albion Malleable Iron Company; W. M. Thompson, president of the Jackson City bank; P. H. Withington and Winthrop Withington, of the Withington & Cooley Manufacturing Company; H. S. Reynolds, of the Peoples' National Bank, and H. L. Smith, of the Novelty Manufacturing Company and the Metal Stamping Company.

They will equip the car with an engine designed by C. C. Cutting and O. J. Porter. Some new ideas are embodied in the motive power. An experimental engine has been thoroughly tested out, with most satisfactory results. Messrs. Porter and Cutting are stockholders and will have charge of the mechanical end of the business. The company has rented the Hutchison factory at the east end and has placed orders for machinery and materials. It will put out a car which will sell for \$4,000.

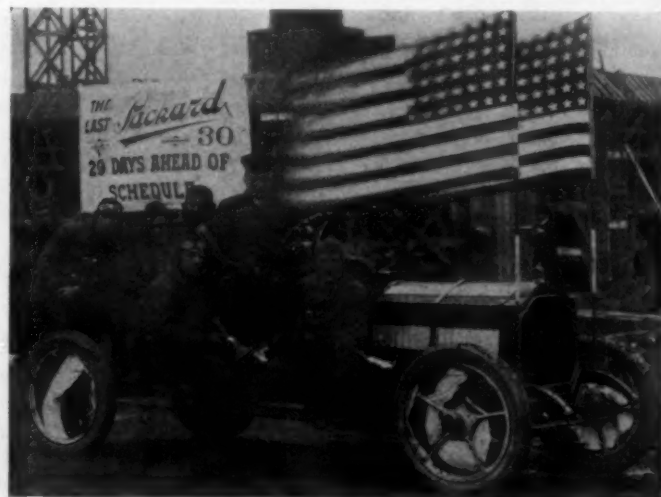
#### THE 1907 PACKARD OUTPUT FINISHED.

DETROIT, MICH., May 27.—The last of a year's output of 1,129 motor cars finished and tested May 23, 1907, twenty-nine days ahead of schedule; "Bill" Birmingham, head tester, the happiest man in Detroit, and every Packard man, from the manager down to office boy, proud as there can be pride of accomplishment—this is the story of the wind-up of the manufacture of 1907 Packard cars.

When this last 1907 Packard "Thirty" had been tested, tuned and adjusted to its smallest detail; had passed the scrutinizing judgment of the head tester, and was ready to be washed and painted, the small army of hypercritics who compose the Packard testing corps roughly painted the rig in national colors, decorated it with all available flags and banners, crowded themselves into it, and paraded the streets of Detroit.

Each season the Packard company has progressed in the working out of a policy of one model a year, a definite number of cars of that model, and a definite schedule of manufacture and delivery. Last winter it worked against weather conditions which seemingly made the testing of cars on the road impossible. Drivers were compelled to face 10-below-zero cold snaps and all other forms of inclement weather that would seem naturally to retard such work. Back of "Bill" and his testers, however, was a system, with Henry B. Joy at the head, S. D. Waldon in charge of the sales organization, and Factory Manager Moore, with his assistants, working out the designs of Engineer Huff.

The Packard factory gradually turns from old work to new. Four experimental 1908 cars are on the road, going through a trial of many thousands of miles.



"BILL" BIRMINGHAM AND HIS CORPS OF PACKARD TESTERS.

## THE GROWING GARAGE LIST.

### A Modern Garage for Worcester.

WORCESTER, MASS., May 27.—An important addition has been made to the garage list of the city by the opening of the new Pilot garage, between Commercial and Mercantile streets. The building is absolutely fireproof, is built of brick, iron and glass, with granolithic floor, and has separate entrance and exit doors, avoiding the annoyance of turning cars round. The equipment consists of electric light, compressed air plant for inflating tires



WORCESTER'S LATEST UP-TO-DATE AUTO REPOSITORY.

and cleaning cars, electric polishing machine for brasses, electric motors, and a thoroughly equipped and up-to-date repair shop. A special waiting room with toilet has been provided for ladies, complete with writing tables, chairs, etc. There is a private telephone for the convenience of patrons. The Pilot garage is the local agent for Pope-Hartford, Pope-Tribune, and Pope-Toledo automobiles.

### Cleveland's Latest and Most Modern Garage.

CLEVELAND, May 27.—Owing to the pressing demand, several departments of the Metropolitan Motor Car Company's new garage on East Nineteenth street, near Euclid avenue, were opened in advance of the completion of the building. The latter is 140 feet square and two stories high, both of which are exceptionally well lighted. An elevator runs from the basement to the second floor. The entire ground floor is an open cemented space, plugs for charging thirty electricies simultaneously being provided, as well as washing racks for five machines. Dry steam is piped from the heating boiler in the basement for removing oil and grease from running gears, thus avoiding the use of gasoline for this purpose, while compressed air is employed for cleaning upholstery. The upper floor houses the machine shop, tool room, woodworking, painting and varnishing departments, automatic fire doors being provided between all the departments. Two 250-gallon tanks underground outside the building, piped to automatic measuring pumps, constitute the fuel supply equipment. The company handles the Pierce Great Arrow, Stearns, Cadillac and Babcock electricies. The officers are W. C. Anderson, president, and J. Theodore Tehen, vice-president, both of whom have been connected with the auto trade in Cleveland for several years past.

### Minneapolis Adds a New Garage to Its List.

MINNEAPOLIS, MINN., May 27.—The Evans Motor Car Company has just removed into its new garage at 522-24 Tenth street, S., within easy reach of the finest residential district of the town. The new garage, which is fireproof, built of reinforced concrete and steam heated, has a frontage of 45

feet and a depth of 100 feet. On the first floor are the stock rooms, office and garage. A fully equipped machine shop and storeroom occupy the second floor. Agencies are held for Mitchell, Wayne and Jewel automobiles.

### Two New Garages for Asbury Park, N. J.

ASBURY PARK, N. J., May 27.—F. Engelsberg and R. Boone, both of New York, have leased the building on the corner of Lake avenue and Heck street, and will conduct a first-class garage this summer under the name of the Asbury Park Garage Co.

C. R. Zacharias has maintained his garage on the corner of Main street and Sewell avenue. Ker's garage is a new one opened on Main street, while Mark Guy still has the place at 21 Main street.

### IN AND ABOUT THE GARAGES.

Cheyenne, Wyo.—A second garage has been opened here at the corner of Nineteenth and Ferguson streets. Fred Voss is the proprietor.

Pasadena, Cal.—John D. Laing intends to erect a large auto garage on East Colorado street, specially equipped for handling high-priced vehicles.

Algona, Ia.—Harry Wilson and Charley Lampright have opened an automobile garage here, and are prepared to do an auto livery business.

St. Paul, Minn.—In a few days the new garage for the Bazille Auto Company on East Ninth street will be completed and open for business.

Ottumwa, Ia.—Don P. McClure, of Oskaloosa, has opened a new garage 66 by 55 feet on Green street, with ample storage room and complete repair shop.

Buffalo, N. Y.—The Starin Company has removed from North Tonawanda, N. Y., to larger and well equipped premises at 1094-1100 Main street, in this city.

Topeka, Kan.—The Topeka Automobile Company is about to commence the construction of a two-story garage, at a cost of \$7,500. The dimensions are 75 by 50 feet.

Crawfordville, Ia.—Robert Irwin will open a garage on North Green street very shortly, where he will have automobiles for hire and additional space for storing machines.

Green Bay, Wis.—The Hoberg Livery & Auto Garage has just been opened for business in Main street. All modern appliances are to hand for storing and repairing automobiles.

Fargo, N. D.—The contract for the erection of the John Haas automobile garage, on the site of the old Columbia Hotel, at Broadway and Second avenue, has been awarded to Bowers Brothers, at \$7,992.

Winona, Minn.—Edgar Spence, of Indianapolis, Ind., has opened a new automobile garage on Center street, between Third and Fourth streets. The new business has been named the Winona Auto & Electric Company.

Seattle, Wash.—The new garage of the Seattle Automobile Company, on Tenth avenue, near Pike street, is nearing completion. The garage has a floor space of 36,000 square feet, and will be fitted with private stalls.

Allegheny, Pa.—The Allegheny Automobile Company has been incorporated and has opened a big garage at 915-919 Irwin avenue under the management of Walter G. Reineman. Glide and Austin touring cars and Rapid commercial vehicles are handled.

### NEW YORKERS CAN SECURE OLD NUMBERS.

ALBANY, N. Y., May 27.—At the session of the legislature tonight the Assembly passed the bill of Senator Davis, which Buffalo auto owners wanted so that they might secure old registration seals and numbers. It is one of the few bills affecting motor vehicles passed this session.

## BRIEF ITEMS OF NEWS AND TRADE MISCELLANY

A Pope-Hartford Model L has been selected as the official car of the Automobile Club of America.

An electric machine shop for the repair of automobiles has been opened by Mosley-Haigler Electric Company, at 308-310 Lee street, Montgomery, Ala.

A contract has been signed by the White Company for the equipment of their cars with Triumph gages made by the Boston Auto Gage Company of Boston, Mass.

J. D. Maxwell, president of the Maxwell-Briscoe Company, declares in favor of limiting the piston displacement of racing cars as the proper basis for handicapping.

King Alfonso of Spain has added a 22-horsepower Berliet victoria to his automobile stable. The machine will be used by the Queen and the recently arrived heir to the throne when they are able to ride out in the air and sunshine.

The Delphi Machine Company, of Delphi, Ind., has completed arrangements to increase its capacity to five times its present output, and a large building will be erected at once. The company has contracts for a large quantity of automobile parts on hand.

Los Angeles local dealers gave a royal entertainment to the public at its recent track meeting, the feature of which is reported to have been the performance of Harris Hanshue's 32-horsepower Reo Bird, which covered two miles in 1:59 3-5 and five miles in 5:4 1-5.

Foundations are now being laid for a new building adjoining the present Rambler factory, at Kenosha, Wis., to cover an area of 35,000 square feet and ten acres of land. This ground extension makes a total area of forty-five acres covered by the Rambler plant.

F. C. Gilbert, sales manager for the Pope-Toledo automobiles, says it is quite the fad now for purchasers to come to the factory when their car is ready, and drive it home, instead of having it shipped by rail. Distance makes no difference; in fact, the longer the journey home, the more enjoyable the drive.

The Byrider Electric Auto Company has been organized at Cleveland, O., by John and William A. Byrider, of Akron, O., to manufacture electric vehicles. The plant formerly occupied by the Williams Electric Company, at 1948 East Fifty-fifth street, has been purchased, and Fred B. Duncan, of Akron, installed as manager.

The car that was purchased by Motor Vehicle Commissioner J. B. R. Smith, of New Jersey, to run down speed violators was a Type XV Pope-Toledo. Mr. Smith states that "the car is not an extravagance, but an absolute necessity, and will give the department an immense advantage over the automobilists who insist on transgressing the law."

The plant of the Union Automobile Company, in Homewood avenue, East End, Pittsburg, Pa., was damaged to the extent of \$25,000 by a disastrous fire last Saturday. Small boys playing with matches near a lot of gasoline are supposed to have started the blaze. Of eleven automobiles in the garage two were completely destroyed. The garage will be rebuilt at once.

A large plant for the manufacture of denatured alcohol will be built at Cortland, Ohio, fifty miles north of Pittsburg. Twenty-five people will be employed, and the company, in which are included several Pittsburgers, expects to have the product on the market by midsummer. Machinery is being installed and large contracts are being made with farmers for potatoes, fruit and grain. The site is about midway between Pittsburg and Cleveland on the main line of the Erie Railroad.

At the first directors' meeting of the Carter International Automobile Manufacturing Company, Inc., of Detroit, held last week, the following officers were elected: President, Howard Carter; first vice-president, Louis Rosen; second vice-president, J. F. Crotty; secretary, G. F. Dueweke; treasurer, J. E. Winney; general manager, H. F. Koehler. The company manufactures the Carter two-engine car, which was originally produced in Milwaukee. Under the new corporation all interests are centered in Detroit.

Under the title of the Fargo Automobile & Brokerage Company, an organization has been incorporated in Fargo, N. D., with a capital of \$50,000, to do a general agency and garage business. The incorporators are Arthur Gehm, Fargo, president; Fred Lang, Grand Forks, vice-president, and E. H. Probstfield, Fargo, secretary, treasurer and general manager. The company is already doing business, and handles the Thomas Flyer.

A remarkable automobile performance is reported by A. J. P. Bertschy and George Bertschy, of Reno, Nev. With a 1904 two-cylinder Winton runabout which had been exposed to the weather for twelve months outside a garage, a run was made to the mining camps over very heavy roads. The machine traveled to Boyer's Ranch, passed over Cobalt mountain, a rise of 6,600 feet, and reached Lovelocks in good condition. This is the first auto trip from Fairview to Lovelocks. The buckboard stage which makes this trip uses four horses.

In a letter just received by President Hartford, of the Hartford Suspension Company, from Chas. F. Hart, superintendent of the mechanical department of the Brooklyn *Daily Eagle*, he orders a new set of suspensions for its 1905 Pope-Toledo. In his letter, he states that the old set of suspensions has been on the car for 27,000 miles, of which 9,000 miles were over the roughest streets of Brooklyn delivering newspapers, with never a broken spring. This car has made some record runs in catching newspaper trains.

W. C. Price, 2222 Michigan avenue, Chicago, has just brought out a runabout equipped with a Beaver two-cylinder horizontal motor, with cylinders 4-inch bore and 4 1-2-inch stroke, driving to rear axles by means of a belt transmission from motor to jack shaft, and single chain to sprocket on rear axle. Variable speeds are arranged by tightening or lessening the tension on the belt. Solid tires are used, with 34-inch wheels, and the car complete weighs but 750 pounds. The maker claims great efficiency on all kinds of roads, and expects to form a company to put the cars out in quantity at an early date.

The Gemmer Engine Works, of Wabash, Ind., devoted to the manufacture of motors and steering gears, have been acquired by E. P. Hammond, A. Skae and E. Gemmer, all of Detroit, from the former owners, George Barcus and A. B. Rowley, the purchase price being reported as \$50,000. The business will be transferred to the latter city and will be housed at 741-747 Merrick avenue. Manufacturing will begin immediately, the plant occupying 200 hands in turning out the Gemmer steering gears, of which Mr. Gemmer is the inventor. The company has been incorporated with A. Skae as president; E. Gemmer, vice-president, and E. P. Hammond, secretary-treasurer.

### RECENT TRADE REMOVALS.

The Duplex Ignition Company, makers of the Duplex spark plug, has removed from 1555 Broadway, New York City, to larger quarters at 307A West Thirty-sixth street.

The Rainier agency at Pittsburg, Pa., has removed its showroom to new and larger quarters at Seventh and Bedford avenues, and an ample garage will be operated in connection therewith in the future. B. F. Benson, who formerly handled the American Mercedes, has been appointed manager. In locating in the downtown section, the Rainier agency made a new departure in the Pittsburg automobile field, all of the others being located in the East End district of the city.

### NEW AGENCIES ESTABLISHED.

The Pope Automobile Company, of Washington, D. C., has been given the agency in that city for the Autocar. The company's line now consists of the several Pope productions, the Locomobile and the Autocar.

A. W. Kirk, who formerly traveled in the South for the Hartford Rubber Works Company, will soon open a store at Atlanta, Ga., for the Hartford tire makers, and carry a complete line of its goods at that point. Mr. Kirk states that the demand throughout the South for the new Hartford Clincher and Dunlop tires with the Midgley Anti-Skid tread is exceptionally large.

The following new agencies have been established by the Corbin Motor Vehicle Company, of New Britain, Conn.: Charles Hanauer Automobile Company, Cincinnati; Flatbush Motor Car Company, Brooklyn, N. Y.; Keystone Motor Car Company, Philadelphia; Arrow Automobile Company, New Haven, Conn.; R. R. Kimball, Omaha, Neb.; Allen, Astin & Co., Greenwich, Conn.

The marketing of the Triple Action spring, the new spring for automobiles invented by D. R. Close, of the Garden City Spring Works, of Chicago, will be done by the Triple Action Spring Company, with headquarters at 1254 Michigan avenue, that city. S. Furmidge is the president of the new company; D. R. Close, vice-president, and Oliver G. Temme, secretary and treasurer. The spring was illustrated and described in THE AUTOMOBILE of April 25, page 727.

Cockcroft & Ballou, a newly established firm, have closed a contract with the K-W Ignition Company, of Cleveland, O., to act as American and foreign distributors for K-W ignition outfits. The firm has established headquarters at 122 West Thirty-fourth street, New York City, in a part of the store occupied by the Racine Boat Manufacturing Company as its New York branch, and will carry a complete line of the K-W ignition systems for automobiles and motor boats. The New York store will be in charge of J. D. Cockcroft, who will handle the eastern and foreign end of the business, while F. A. Ballou, with headquarters at 879 Main street, Buffalo, N. Y., will handle the middle western territory.

#### PERSONAL TRADE MENTION.

Charles B. Shanks, general sales manager of the Winton Motor Carriage Company, of Cleveland, is making his regular semi-annual visit to the Pacific Coast agencies.

H. L. Moody, formerly manager of the American Napier Company, of Boston, has joined the selling forces of the American Locomotive Automobile Company, at 1886 Broadway, New York City.

E. B. Blakely, the former Harvard student, who captured the 100-mile and other prizes at the Ormond Beach meet last winter, is now affiliated with the Electric Vehicle Company, and his future efforts will be devoted to Columbia cars. All the finished Columbias are passed along to Mr. Blakely for a final test before shipment.

Orrel A. Parker, president of the Newmastic Tire Company, Broadway and Sixty-eighth street, New York City, also a charter member of the Aero Club and a member of the committee on streets of the A. C. A., celebrated his marriage with Miss May Robertson Gibson a few days ago. The honeymoon took the shape of an automobile tour from New York to Chicago and back, largely over the route of the Glidden tour.

J. D. Maxwell and Benjamin Briscoe, of the Maxwell-Briscoe Motor Company, Tarrytown, N. Y., left last week for Newcastle, Ind., to inspect the erection of the new Maxwell plant in that city. Before leaving they stated that a circular half-mile track, heavily banked for testing the cars for speed, and an artificial hill with a maximum grade of 30 per cent. for hill-climbing tests, would be a part of the factory's equipment.

Robert L. Winkley, general manager of the department of publicity of the Pope Manufacturing Company, Hartford, Conn., has been visiting the Pope-Toledo factory at Toledo, Ohio. While there Mr. Winkley devoted a considerable portion of his time to riding with Herbert Lytle, the Pope-Toledo driver, over the excellent northern Ohio roads. In speaking of the healthfulness of automobiling, Mr. Winkley states that Lytle is a living exponent of it. He is up at break of day and on his machine, has an appetite that is the envy of his fellows, and looks like the fountain of perpetual youth.

#### GEO. C. JOHN'S CHANGE OF BASE.

George C. John is to become sales manager of the Pennsylvania Auto Motor Company, Bryn Mawr, Pa., and July 1 will assume his new duties. In the near future Mr. John is to leave the St. Louis Car Company, makers of the American Mors, of which concern he has been sales manager.

#### NEW TRADE PUBLICATIONS.

An advance 1907 accessories catalogue has been received from the Bishop Auto Supply Company, St. Louis, Mo.

"How Josh Lost and Won" is a story of—well it would be better to leave the reader to find out what it is about. The Columbus Buggy Company, Columbus, Ohio, will supply the booklet free on request.

Messrs. Adam Cook's Sons, 313 West street, New York City, the makers of Albany grease, are sending to the trade a new booklet, giving a considerable amount of information on the lubrication of machinery.

An eight-page folder from the Electric Vehicle Company, Hartford, Conn., supplies specifications and illustrations of the firm's six models of Columbia electric commercial vehicles. The illustrations on the folder are all made from photographs of Columbia vehicles in actual use.

A new booklet has been issued by the Diamond Tire Company, Akron, Ohio, giving descriptions and illustrations of the various types of Diamond tires, and paying particular attention to the Marsh rim. A series of illustrations show the mechanical parts of the rim, method of mounting, dismounting, etc.

Jones speedometers are presented in a dainty little brochure issued from the company's headquarters at Broadway and Seventy-sixth street, New York. The various types of speedometers for automobiles and bicycles are illustrated, and a colored engraving is given of the Jones triplet combination.

"The Why of It" is a folder from the S. F. Bowser & Co., Fort Wayne, Ind., telling the why of the well-known Bowser gasoline tanks. A further booklet deals with the Bowser system of factory oil storage; still another describes in detail the Bowser system for storing and handling gasoline and lubricating oils.

Voluminous, carefully compiled and well printed, the catalogue of the Auto-light and Motor Supply Company, 506-508 North Broad street, Philadelphia, contains all the multitudinous articles which the modern automobile demands. Everything from a cotter pin to powerful headlights has its place within the covers of the 140-page book.

With a closely printed volume of over two hundred and thirty pages, the automobile man should find everything he needs in the way of supplies and accessories. The big volume is issued by the Excelsior Supply Company, of Chicago, and contains descriptions and prices of everything likely to be of use or adornment to the chauffeur or his machine.

The Servitor model C automobile, constructed by the Barnes Manufacturing Company, Sandusky, Ohio, is the subject of a new catalogue just sent forth from the firm's headquarters. The machine is a 20-horsepower air-cooled run-about, full particulars of which are given in the catalogue in addition to illustrations of the interior and exterior of its birthplace.

With the regularity of rent day the Silent Partner appears. Volume two, number two, is as full of thought as its predecessors and will be read with as much interest. Its nature is too well

known to need comment. Those who have not studied its pages can remedy the defect by writing to the Globe Machine & Stamping Company, Hamilton avenue, Cleveland.

The annual catalogue of the Purdue University at Lafayette, Ind., is a 300-page volume forming a thoroughly complete guide to the equipment and courses of study at the university for the 1907-1908 session. It comprises a full list of officers, professors and assistants, an account of the material equipment of the institution, courses of study, and description of courses.

The new catalogue of automobile and motorcycle sundries which has just been issued by the New York Sporting Goods Company, 17 Warren street, New York, is a big book of one hundred pages, brimful of illustrations and descriptions of all sorts of motor fixings and accessories, with a few pages devoted to marine engines and boat supplies. A copy will be sent free to anyone who applies by letter.

There is something of real practical interest to the automobilist in Bulletin No. 20, issued from the Coates Clipper Manufacturing Company, Worcester, Mass. It describes in detail the construction of the Coates steel, ball socket joint, unit-link flexible transmission. In addition, drill presses, breast drills, buffing outfits, portable motor tools, radial drills, etc., all equipped with the Coates flexible transmission, are described and illustrated in the catalogue.

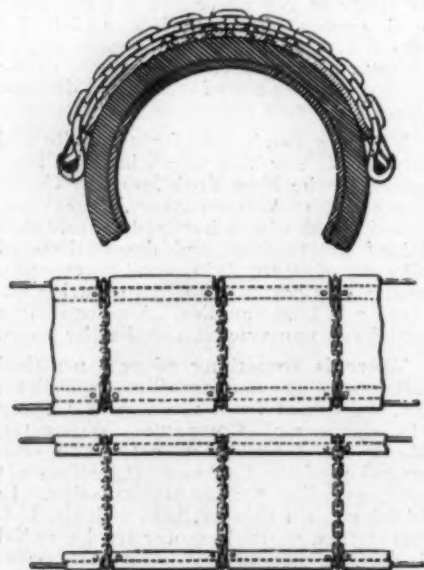
From the Bayard-Clément headquarters has been received the firm's complete catalogue, in French, illustrative and descriptive of the wide range of automobiles produced in the modern factories at Levallois, near Paris, and at Mezieres in the Ardennes. There is a short sketch of the head of the firm, Gustave Adolphe Clément, the "industrial giant who says little but thinks much," and a description with illustrations of the main factory at Levallois, on the banks of the Seine.

Owing to the rapid development of the automobile and the radical changes from earlier models, it is a difficult problem to systematize and present in catalogue form all the multitudinous parts in regular demand. A work of this nature has been produced in an exceptionally simple and yet complete manner by the Pope Motor Car Company, Waverley Department, Indianapolis, manufacturers of the Pope Waverley electrics, in their catalogue of parts just received. The arrangement is excellent; illustrations are used throughout; parts are divided into groups, and are also indexed and numbered, so that any particular part can be readily found.

An exceptionally interesting and attractive book has been produced by the Continental Caoutchouc Company and forwarded to us by the New York agency at 43 Warren street, dealing with Continental tires in the Herkomer and other European contests. As a souvenir of the great German touring competition, the book will be welcomed by all automobilists, for it consists of over one hundred and twenty pages, each one bearing a half-tone engraving of some scene in last year's competition. The artistic cover bears a realistic photogravure of a speeding machine on the Herkomer course, and the frontispiece consists of an engraving representing Professor Hubert von Herkomer, donor of the trophy.

## INFORMATION FOR AUTO USERS.

**New Tire Tread Chain.**—From the southwest, namely, Corsicana, Texas, comes another invention of the type designed to give traction at the driving wheels without grinding the tires to pieces in the operation. Its sponsor is



THOMAS' TIRE TREAD CHAINS.

J. Clarence Thomas, who is a Texas "auto-doctor," and he has made application for a patent on the device. As shown by the accompanying cuts of it, there seems to be every reason why it should successfully fulfill its mission, and no doubt it is the result of Dr. Thomas' ripe experience on the muddy roads of the southwest country. It is made in several forms, to suit the nature of the roads on which it is to be used; one of these not shown is in the form of a combined studded tread and set of chains, the latter fastening to side wires by means of hooks, as shown in the lower left-hand cut reproduced herewith, the side wires themselves also being fastened together with a small hook. The second of the three sketches shows a chain grip and smooth tread, and the lower or last figure a plain chain grip, all of the different types using the same method of side-wire fastening. Mr. Thomas has tested his invention over some of the choice samples of road that Texas has to offer and has found them to work very well.

**Toggled Top Oil Cups.**—Four types of Bennett toggled top oil cups are manufactured by the Bay State Stamping Company, 380 Chandler street, Worces-



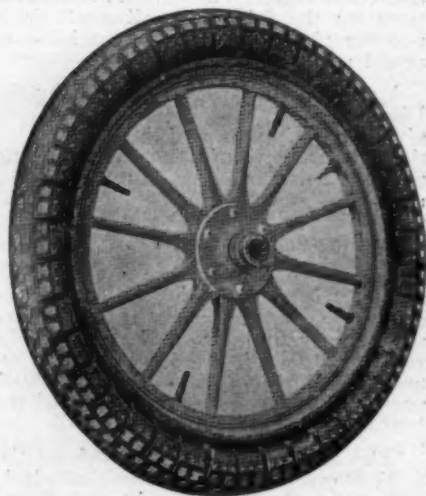
STYLE A.

STYLE B.

ter, Mass. The two illustrated, Style A and Style B, are made to screw into the bearing with a threaded cover, with packing to make it perfectly oil tight. The

only difference between the two is in the cap, this screwing down in one case and slipping over the cup in the other. Two other styles are made plain to drive into the bearing. The cups are manufactured in three sizes, 3-8 inch, 1-2 inch, and 5-8 inch diameter of the cup. Prices vary according to size and method of construction.

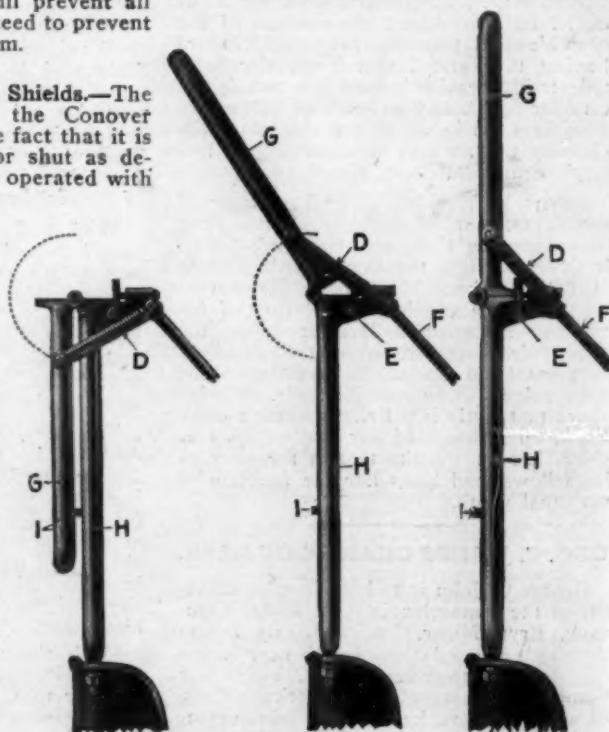
**A New Leather Tire Cover.**—The Maplebay Manufacturing Company, of Crookston, Minn., has produced an automobile tire cover made of waterproof leather specially tanned for the purpose and guaranteed not to shrink or harden. The edges of the cover as well as the tread of same are protected from wear by steel plates, and the cover is fast-



MAPLEBAY LEATHER TIRE COVER.

ened to the wheel by steel clips which go under the edge of the clincher, making a very neat attachment. It is not claimed that the cover will prevent all punctures, but it is guaranteed to prevent a large proportion of them.

**Conover Folding Wind Shields.**—The distinguishing feature of the Conover shield is to be found in the fact that it is automatically held open or shut as desired, and can be instantly operated with one hand without the necessity of stopping the car, as is necessary where there are a number of nuts to be loosened and retightened. Just how this is accomplished will be clear from the three side views of the shield showing it in different positions. The first picture it upright or in the usual running position; the second part way open, and the third, folded down. The spring D serves to control the upper half, whether in place or folded, while the catch E effectively prevents rattling when the shield is up. The rubber bumper I serves the same end when it is folded. The former fastening is made with rounded corners, so as to permit of its opening under



THREE SIDE VIEWS OF CONOVER FOLDING WIND SHIELD.

a sharp pull, so that all that is necessary to shift the position of the shield is to take hold of it. The shield is of 3-16-inch plate glass, while the frame and all the fittings are of polished brass, making it very attractive in appearance. It is made in three sizes, 24, 30 and 36 inches wide by 29 inches high, and readily adaptable to any of the standard forms of dash employed, and requires very little fitting. The Conover Motor Car Company, Paterson, N. J., are the makers.

**Green Oil Soap for Automobile Cleaning.**—So much expense and labor is lavished on the exterior finish of an automobile body that it is small wonder that the average owner soon becomes disgusted with the result of applying the so-called cleaning compounds to this brilliant surface after a short time. No varnish finish is ever subjected to more severe duty than that of an auto, and in consequence, much greater care is necessary if it is to preserve a semblance of its original brightness after a few months' use. The same care that keeps the varnish of milady's brougham gleaming bright day after day in all kinds of weather is necessary if the auto is to present the same appearance, so that the Monahan Antiseptic Company, 123 Liberty street, New York, who have been making green oil soap for the past fifteen years to keep varnish clean, know the requirements of the case pretty well. Garage keepers have come to recognize the efficacy as well as the economy of this soap for keeping cars clean and it is largely used in this city. It is put up in packages convenient for all users, viz., in 5, 10, 25 and 50-pound pails, and kegs, half-barrels and barrels.

**Firestone Dismountable Rim.**—The advantages to be derived from the use of a well-designed dismountable rim, are well known to automobilists, theoretically at least. Annoying delays on the road from punctures, and the risk of pinched tubes

from hurried wayside mounting are removed. The Firestone Tire and Rubber Company, of Akron, O., has recently produced a dismountable rim which will appeal alike to racing men and tourists. Safety is assured by a complete bearing surface, and a mechanical fastening which prevents creeping and absolutely locks the rim in position. To remove the rim, all that is necessary is to loosen the six nuts, allowing them to remain on the bolts, turn clips



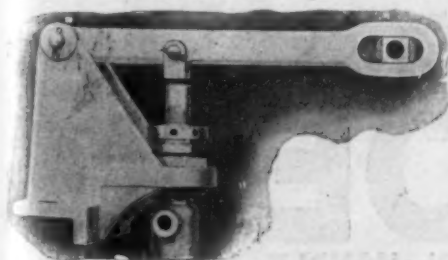
FIRESTONE DISMOUNTABLE RIM.

FIRESTONE DUAL TREAD TIRE.

in the opposite direction, then tighten nuts to hold clips in that position; the rim may then be slipped off with ease. To adjust the extra rim with its inflated tire, this operation is merely reversed. A socket wrench is the only tool required. A feature of the Firestone is that should it be necessary the tire can be inflated without removing rim. In some makes the valve is cut so short that it is impossible to inflate, except when the rim is dismantled. The Firestone dismountable may be used in connection with all standard clincher tires and rims on any automobile wheel, the expense of changing being nominal.

Another new feature from the Firestone factory is a dual tread tire which provides the best non-skid feature in rubber, affords an added wearing depth, gives an additional protection against punctures and a wider surface contact with the road. The dual tread is somewhat thicker than the ordinary tread and consists of two ridges of rubber about 5-8 inches high and from 1 1/2 to 2 inches apart, extending around the tire. It is adaptable to tires of 3 1/2-inch size and upwards, and may be incorporated in any type during manufacture.

**Hill Climbing Pump.**—The Clark hill climbing pump, produced by Edward S. Clark, of 272-278 Freeport street, Dor-

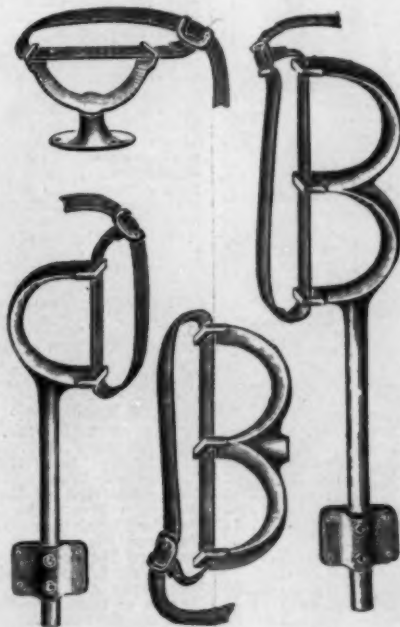


CLARK HILL CLIMBING PUMP.

chester, Mass., is designed to be fitted to White steam cars, model 1903 and 1904. The pump is shown in accompanying il-

lustration. The by-pass valve is fastened to the dasher. Pump bracket is made to bolt on to the frame that supports the engine lugs, only two bolts being required for this. The sliding block on the pump lever is hardened and is made to fit the pin that drives the air pump. It sets close to the engine and does not interfere with the regular pump connection. All the parts are sent with pump ready to apply, with exception of threading pipe, which has to be cut to fit the car.

**Victor Adjustable Tire Holders.**—The Manhattan Storage Company, of 1611 Broadway, New York, is now marketing a series of adjustable tire holders to fit any car and any size tire. One arm reaches forward and is fastened to dash, the other going to the end side of the front seat projection. They can be carried any distance apart to accommodate



SINGLE AND DOUBLE VICTOR TIRE HOLDERS.

the space on any car. Two qualities of the Victor adjustable tire holder are made, one of the best quality yellow brass composition, finely finished and highly burnished, the other finished in black japan. Each set is composed of three pieces, with straps, as shown in illustration.

**Padgett's Detachable Rim.**—The object of this invention is to provide a simple and mechanically dependable method of affixing a pneumatic tire to a wheel rim so that it may be readily removed and replaced with a minimum of time and exertion. James M. Padgett, of Topeka, Kan., is the inventor and patentee, and also has other inventions concerning the automobile to his credit, such as the "Stitch-in-Time" vulcanizer for road repairs to tires. As shown by the illustration of the rim, it consists of a band *F* with one outwardly curved edge on one side and regulation clincher retainer on the other, the latter being concaved and having two holes or recesses and a spring and pin *A*, integral therewith. A convex split ring *E* is adapted to engage the bead of the tire on this side, and is provided with a lug *B* at one

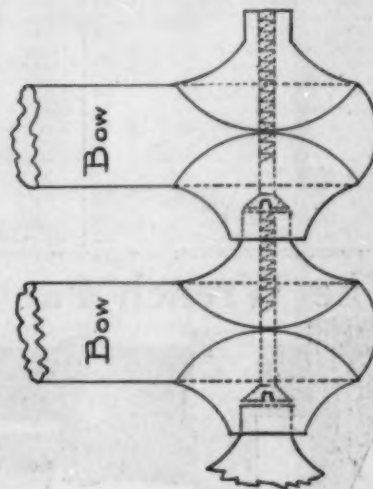
end and a corresponding hole in the opposite end. The operation of removing a tire from this rim simply consists in pressing on the point of the pin *A* until the end of *E* is freed; the latter is then lifted out of the concave recess and the tire may be



DETAIL OF THE PADGETT RIM.

slipped off with the hands. In replacing the tire, the lug *B* is first placed in the recess in the rim, and the flange *E* drawn together when the pin *A* springs into place. The bolt *D* is inserted from the inside of the tire, two or more being used to prevent creeping when run deflated.

**Improved Bow Separators.**—Under the name of "Stik-Tite," the Michigan Top Company, 14-16 Duffield street, Detroit, Mich., has just brought out a new form of bow separator that is said to be a great improvement over the devices now in use for this purpose. It is the invention of J. W. Decker and consists of two specially shaped pieces that are bolted directly to the bow, so that there is no possibility of their jarring loose or twisting away from the latter. The method of attachment to the bows is shown by the accompanying rough sketch; when the top is not in use and



THE "STIK-TITE" BOW SEPARATOR.

the bows are folded back on one another, the use of this device prevents their rattling and banging together and avoids any danger of breaking them in passing over rough roads.

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